

COMMON ARMY AIRBORNE STANDING OPERATING PROCEDURE

FEBRUARY 2023

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DEPARTMENT OF THE ARMY HEADQUARTERS, XVIII AIRBORNE CORPS AND FORT BRAGG 2175 REILLY ROAD, STOP A FORT BRAGG, NORTH CAROLINA 28310-5000

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6 FEB 2023

MEMORANDUM FOR U.S. Army Conventional Airborne Force (CAF) Organizations

SUBJECT: Common Army Airborne Standing Operating Procedures (CAASOP)

1. Purpose. To promulgate the CAASOP and provide the Army's Airborne community with commonality and best practices, while allowing commanders latitude to accomplish their mission.

2. References.

a. Department of Defense (DoD) Directive 5100.01 (Functions of the Department of Defense and its Major Commands).

b. U.S. Army Training and Doctrine Command Pamphlet 350-70-14 (Training and Education Development in Support of the Institutional Domain).

c. Training Circular 3-21.220 (Static Line Parachuting Techniques and Training).

d. Army Directive 2015-33 (Designation of an Army Lead for Conventional Airborne Forces).

e. Army Airborne Charter (Update and Extension).

3. Applicability.

a. By approval of the AAB, this document and its annexes supersede all previous CAASOPs and ASOPs of the U.S. Army CAF units. The CAASOP applies to all CAF units assigned, attached, or operating in support of XVIII Airborne Corps and its separate units, including the 82nd Airborne Division, as well as 11th Airborne Division, U.S. Army Europe (USAREUR), 173rd IBCT (ABN), Joint Multi-national Readiness Center (JMRC), Joint Readiness Training Center (JRTC), National Training Center (NTC), Airborne Ranger Training Brigade (ARTB), U.S. Army Reserve Command (USARC), and the National Guard Bureau (NGB). Airborne units of the U.S. Army Special Operations Command (USASOC), and sister services, are encouraged to use the CAASOP as their baseline when executing static line Airborne operations.

4. Responsibilities.

a. The Commanding General of the 82nd Airborne Division, in his capacity as AAB Training & Standardization Committee Director, is the executive agent responsible for the maintenance and evolution of the CAASOP.

b. The AAB CAASOP Subcommittee manages the base document of the CAASOP. The CAASOP Subcommittee will seek and receive feedback from the Airborne community, recommendations for improvement, and requests for modifications. The CAASOP Subcommittee will manage this information for presentation to the AAB for adoption or modification.

c. CAF units will update their respective unit annexes as necessary.

d. U.S. Army Advanced Airborne School (USAAAS) will update, expand, and modify the Multinational Force Interoperability Annex as necessary.

5. Guidance.

a. The information contained in the CAASOP complements and expands on the baseline requirements of TC 3-21.220 and provides Commanders, Airborne Leaders, and Paratroopers across the Army with safe, effective, and common guidance for the preparation, planning, and execution of conventional Army airborne operations.

b. The tempo at which the Airborne community influences and accepts change is high; therefore, the CAASOP will remain a living document. CAF units will continue the collaborative efforts under which the document was developed, and ensure updated information reaches all levels of their Airborne formations.

6. The point of contact for the CAASOP is the USAAAS Commander in his capacity as the CAASOP Subcommittee Administrator.

CHŔISTOPHER T. DONAHUE Lieutenant General, USA Commanding, XVIII Airborne Corps Chairman, Army Airborne Board

Preface

The Common Army Airborne Standing Operating Procedure (CAASOP) is the AAB's vehicle to provide the Conventional Airborne Force (CAF) with procedures for training, qualifying, preparing, planning, and executing airborne operations. This document is intended to provide the CAF with a baseline for best practices, while allowing Commanders latitude to accomplish their missions.

The primary audience for the CAASOP is the Airborne Infantry Brigade Combat Team (IBCT (A)) and its airborne enablers. Common standards and procedures will enable safety and proficiency within the CAF, as Jumpmasters and Jumpers move between airborne assignments. Unique operating environments and different mission requirements prevent absolute parity across all airborne units. These differences should be captured in each units Annex. However, a strong foundation across airborne operations creates a more interoperable CAF.

The CAASOP seeks to deliver a safe, common-sense approach that applies to problem sets encountered by most, if not all, airborne units in the Army. A deliberate and fairly permissive exception to policy (ETP) guideline exists to mitigate the differences in separate unit's mission sets and assumption of additional risk.

The CAASOP applies to static line operations conducted by Active Duty Army, Army National Guard, and the United States Army Reserve unless otherwise stated.

The proponent of the CAASOP is the AAB and its subordinate Training and Standardization Committee. Send comments and recommendations to the Commander, USAAAS listed on the USAAAS Deps page at:

https://army.deps.mil/army/cmds/82ABD/HHBN/USAAAS/SitePages/Home.aspx or usarmy.bragg.82-abn-div.list.usaaas-commander@army.mil or 910-396-9023.

More information about the AAB can be found at: https://army.deps.mil/army/cmds/18abc_ps/g357/AAB/SitePages/Home.aspx

SUMMARY OF CHANGE

This publication supersedes CAASOP Ed. III, dated August 2022. The entire document is reviewed for grammatical errors and clarification concerns. Significant changes from CAASOP Ed. III are as follows:

-Throughout – Grammatical and formatting corrections.

-2.7.6.b.iv – Clarify. Uncurrent JM must become current Jumper prior to performing JM duties by attending BAR and exiting from an aircraft.

-2.9.3 – Change. ADACO must be the rank of CPL or above.

-2.10.6.a – Change. ADZSO and ADZSTL must be the rank of CPL or above.

- -6.7 Clarify. Towed Bundles recovery procedures.
- -11.2.8.b Add. Clarification to use of WDI. Change: Minimum number of WDIs required for VIRS operations is reduced to ONE to verify the calculated release point.

-12.6.1.c – Clarify. E-tool is tied down using 550 cord.

-12.6.5.a – Change. Authorize the use of side sustainment pouches with a MOLLE Large rucksack.

-12.8.2 – Add. Photos and rigging solutions of nylon type 7 WAPES and type 8 WES.

-12.13.4.d – Add. Rigging procedure for M320 with Grenade Sighting System (GSS).

-12.16.8.e – Add. Carl Gustav as common name for M3 MAAWS for searchability.

-Appendix E: Pre-Jump – Change. Update IAW MJM Update 21-01.

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CAASOP Unit and Mission Specific Annexes

- Annex A. XVIII Airborne Corps and 82nd Airborne Division
- Annex B. 11th Airborne Division
- Annex C. 173rd Brigade Combat Team (BCT) (Airborne)
- Annex D. Airborne Ranger Training Brigade (ARTB)
- Annex E. U.S. Army Reserve Command (USARC)
- Annex F. National Guard Bureau (ARNG)
- Annex G. Joint Readiness Training Center (JRTC) and Fort Polk
- Annex H. Rough Terrain
- Annex I. Multi-National Force Interoperability
- Annex J. Deliberate Water Jump
- Annex K. National Training Center (NTC)

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Chapter 1. General Information

1.1. Purpose and Application of the Common Army Standing Operation Procedure and the Mission of the Conventional Airborne Force

- The Common Army Airborne Standing Operating Procedure (CAASOP) was written through a collaborative effort by all U.S. Army Conventional Airborne Forces (CAF). Its purpose is to: increase individual and unit readiness; unify standing operating procedures (SOP) for the planning and safe execution of static line (SL) operations; equip Commanders with knowledge and latitude for conducting airborne operations; help units and Commanders identify and subsequently eliminate unnecessary risks; and promote the advancement of SL operations.
- 2. The CAASOP applies to all assigned, attached and operationally controlled (OPCON) elements of the following CAF units: XVIII Airborne Corps, 82nd Airborne Division, 11th Airborne Division, Airborne and Ranger Training Brigade (ARTB), 173rd Brigade Combat Team (Airborne), Joint Readiness Training Center (JRTC) and Fort Polk, U.S. Army National Guard (ARNG), National Training Center (NTC), Joint Multi-National Readiness Center (JMRC), and U.S. Army Reserve (USARC) units that execute SL airborne operations. [The CAASOP also applies to aerial delivery and institutional organizations that provide Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) support to the CAF. It will also be used by any CAF unit attached to or OPCON by other headquarters (HQ) and for reference by all remaining airborne units.
- 3. The primary mission of the CAF is to maintain the highest level of readiness, rapidly project strategic combat power through the execution of combined and joint forcible entry (JFE) operations, and to fight immediately upon arrival. To meet this challenge, every Paratrooper assigned or attached to a CAF unit must become and remain proficient in the execution of airborne operations.

1.2. CAASOP Implementation and Review

- 1. Commanders will encourage and direct the implementation of comprehensive and effective training and education for their Airborne Leaders and Jumpmasters (JM) to ensure the shared knowledge, experience, and standards established in the creation of this SOP are understood and followed by their JMs and Paratroopers.
- 2. Airborne Leaders and JMs have the responsibility to not only educate their force, but also improve the CAF as a whole. To do so, Leaders must implement the requirements and recommendations in this SOP. As the CAF achieves levels of commonality, any individual that identifies an error, safety issue, or simply has an idea that may improve the CAASOP has the responsibility to nominate changes to the CAASOP Sub-Committee. Locations for contact information include the following Department of Defense Enterprise Portal System (DEPS) pages:

XVIII Airborne Corps, Army Airborne Board (AAB)

https://army.deps.mil/army/cmds/18abc_ps/g357/AAB/SitePages/Home.aspx

The United States Army Advanced Airborne School (USAAAS)

https://army.deps.mil/army/cmds/82ABD/HHBN/USAAAS/SitePages/Home.aspx or email usarmy.bragg.82-abn-div.list.usaaas-commander@mail.mil

1.3. Explanation of Terms

Terms and abbreviations used in this SOP can be referenced in Appendix A and B of this document. Acronyms and abbreviations that do not require definition, such as PAX in place of personnel, are used throughout this publication. The terms Paratrooper and Jumper are utilized interchangeably.

- 1. "Should" indicates a recommended procedure.
- 2. "Must," "Will," and "Shall" indicate a mandatory requirement.
- 3. "May" indicates an acceptable or suggested means of accomplishment.
- 4. "NOTE" Points out something of special interest or to emphasize important information. A "NOTE" is regulatory.

Attention to detail will save lives. Demand it of yourself and your Paratroopers.

1.4 Best Practices Regarding Safety and the Care of Personnel and Equipment

 Preparing for an airborne operation is stressful, both mentally and physically. Units will efficiently use their time at the unit area and the departure airfield (DAF) to set the conditions for optimal Jumper performance before, during, and after the airborne operation. If the Jumper is not ready to safely execute the mission, the Primary Jumpmaster (PJ) will remove or "scratch" that Jumper from the airborne operation. The authority to scratch a Jumper lies with the PJ, who will immediately notify the Airborne Commander and Departure Airfield Control Officer (DACO) IOT maintain accountability.

2. At the unit area.

- a. Uniforms will be serviceable and free of pin on insignia.
- b. Boots with open lacing hooks will have the exposed lacing hooks taped prior to an airborne operation.
- c. Paratroopers will not wear their hair in a ponytail, nor will earrings be worn during the airborne timeline. Once the airborne operation is completed, uniforms will be dictated by the unit Commander.
- d. All equipment worn and rigged to a Jumper will be approved for airborne operations. The process for approval of equipment will vary based on the type of equipment. Reference the Approved Use List (AUL) to ensure your Paratroopers are using authorized equipment. Links to the AUL can be found in paragraph 1.6. of this publication.
- e. Rigging procedures are outlined in this publication as well as Training Circular (TC) 3-21.220 Static Line Parachuting Techniques and Training, Marine Corps Warfighting Publication (MCWP) 3-315.7, Air Force Manual (AFMAN) 11-420, Naval Sea Systems Command (NAVSEA) SS400-AF-MMO-010, and will not be altered in any way. New rigging solutions will be published to the CAF through Master Jumpmaster (MJM) updates found on the USAAAS DEPS page @ https://army.deps.mil/army/cmds/82ABD/HHBN/USAAAS/SitePages/Home.aspx.
- f. Jumpers are highly encouraged to jump with a pair of leather palmed gloves. If the Paratrooper must lower themselves from a tree, the gloves will provide improved grip on the T-11 Reserve (T-11R) suspension lines and prevent serious burn injuries to the Paratrooper's hands. Gloves will be stored in an easily accessible location on the Jumper's person (such as in the Jumper's cargo pockets on their ACU) and not in rigged equipment to facilitate ease of access and prevent the loss of gloves if Jumper must jettison their equipment during emergency procedures.

- g. All Jumpers must have a period of rest in the preceding 24 hours prior to station time (ST). Consider the rest and nutrition plan to ensure optimal alertness and performance from all Jumpers.
- h. Commanders and JM teams will prohibit the use of performance degrading substances beginning 24 hours prior to manifest. Examples include, but are not limited to, alcohol and over the counter medications that increase drowsiness/decrease motor function, etc.

3. At the DAF.

- a. Adherence to the airborne timeline is paramount to the success of the airborne operation. Timelines should not be extended or "padded" to prevent Jumpers from being rigged in their equipment for extended periods of time.
- b. Movement to the aircraft is physically demanding and there are several techniques (i.e., late hang and JMPI, technical inspection (TI) and hang, ramp-side attachment of combat equipment (RACE), in-flight rigging) available to the Airborne Commander. Coordinate with the Air Shop to ensure that USAF and DAF PAX understand what will occur at the DAF, that the timeline properly reflects the Airborne Commander's intentions, and that proper resourcing is provided.

4. In flight.

a. Airborne Commanders, JMs, and Sortie Commanders (if assigned) will remain aware as the air movement plan is executed. Any tactical decisions made while in flight that directly affect the ground tactical plan are made by the highest level of authority present on the aircraft. The succession of authority for the ground tactical unit while in flight is the Airborne Commander, Sortie Commander, and finally the PJ.

5. On the DZ.

- a. All PAX on the DZ will wear an approved helmet when equipment or PAX are being dropped.
- b. Red chemical (chem) lights will only be used on the DZ when marking the location of a casualty. Each Jumper should carry one red chem light on their person in the event self or buddy aid is required.
- c. The maintenance and accountability of the parachute inventory is paramount to the sustainability of the airborne mission. In the majority of peacetime operations, a tactical pause may be conducted in order to ensure the multi-million dollar inventory of the U.S. Army's parachute systems are maintained at the maximum level possible.

1.5. Individual and Unit Readiness

- A comprehensive airborne integration of all incoming PAX should be standard practice for newly assigned Paratroopers. Unit Commanders, First Sergeants, Master Jumpmasters (MJM), or a senior Airborne Leader appointed by the Commander should conduct a briefing to incoming PAX. This can be added to a unit's newcomer's brief. At a minimum, this will be conducted at the Company level within 30 days of reception. The briefing will include:
 - a. An explanation of the unit's Paratrooper Essential Task List (PETL) and policies for achieving each task.
 - b. A clear training path for each individual based on their current level of training, experience, and qualifications to reach their expected level of proficiency specific to their unit.
 - c. Identify the individual's immediate training requirements and schedule the individual for any required refreshers as soon as possible. Examples of such refreshers are Basic Airborne Refresher (BAR); New Equipment Training (NET); Jumpmaster Refresher (JMR), etc.

2. Individual Readiness.

- a. A Paratrooper's readiness is measured on their physical prowess, mental resilience, and preparation of their equipment. Leaders will foster all three measures to ensure the Paratrooper is fully ready to deploy worldwide with little to no notice.
 - 1. Physical prowess. The demands on a Paratrooper require physical endurance to sustain personal and unit combat power. Leaders and individual Paratroopers share the responsibility in gaining and maintaining high standards of strength and conditioning to meet the unique strain of the airborne mission.
 - 2. Mental resilience. Readiness depends on a responsive and mentally resilient Paratrooper. Expectations of ambiguity will create an agile and adaptable Paratrooper and will harden the mind to the constant changes inherent in airborne operations.
 - 3. Preparation of equipment. Paratroopers are dropped behind enemy lines and are required to conduct difficult missions without the availability of immediate resupply or logistical support. The preparation, maintenance, use, and accountability of the Paratrooper's equipment can mean the difference between successfully completing the airborne mission and the loss of Paratroopers' lives.

3. Unit Readiness.

- a. Readiness relies upon the management of training, personnel, supply, and maintenance. Each of these pillars of readiness are critical to the overall readiness of an airborne unit. Units must keep these four pillars at the forefront in the preparation for and execution of their airborne mission to be successful both in the air and on the ground.
- b. Training. Airborne training should be planned on a regular schedule to build muscle memory and to keep airborne tasks and skills foremost in the minds of all Paratroopers. Conducting rigging exercises (RIGEX) after ruck marches, mock door training at the squad level, and the like should be considered in all training plans to achieve and maintain proficiency at the lowest level.

4. Personnel.

a. Airborne units require various qualified PAX, across sister units, in order to conduct the airborne mission successfully. Tracking, progressing, and managing current and qualified JMs, Drop Zone Safety Officers (DZSO), Departure Airfield Control Officers (DACO), Air Movement Officer (AMO), and the like, will play a pivotal role for a unit to be able to accomplish their airborne mission. It should be a high priority for Commanders to ensure their JMs are fully progressed through all JM duties (both in the air and on the ground) to ensure their unit remains fully capable and flexible to accomplish the airborne mission.

5. **Supply.**

 a. Conducting an airborne operation requires the availability and use of expendable and durable items. Maintaining a large, ready, and serviceable stock of training equipment, class VIII and XI (CL VIII) (CL XI), and other identified logistical items can be the difference between getting full combat power on the drop zone and causing unnecessary injury to the Paratrooper.

6. Maintenance.

a. From individual equipment to the recovery of the Army's Parachute Systems, care and maintenance shapes the unit and its ability to respond to short or no notice deployments. Leaders must ensure their

Paratroopers maintain unit and individual equipment to a high level of readiness as they may be required to take these items into a combat situation.

1.6 Approved Use List (AUL) for Airborne Equipment

1. General Information.

- a. The AUL possesses a majority of the items of equipment for aerial delivery and worn by or rigged by the individual SL Jumper. Subordinate AULs can be developed by the CAF in order to (IOT) provide their unit control over the amount and type of equipment worn by the Jumpers within their ranks.
- b. The AUL can be found at the following locations:

https://army.deps.mil/army/cmds/82ABD/HHBN/USAAAS/SitePages/Home.aspx

c. Send requests for updates to the Tower Committee Chief of the USAAAS, which can be found at: <u>https://army.deps.mil/army/cmds/82ABD/HHBN/USAAAS/SitePages/Home.aspx</u>

1.7 Exception to Policy

1. General Information

a. Revisions to the CAASOP are managed by the CAASOP Sub-Committee in accordance with (IAW) the memorandum of agreement (MoA) (see para. 2-4); however, this system may not work for all situations as units may require specific and time sensitive exceptions to policy (ETP) in order to meet their mission requirements.

2. Approval authorities and limitations of ETP

- a. All ETPs will be routed to their approving authority. For the CAASOP, it must be signed by the unit's Senior Mission Commander, i.e., Commanding General, 82nd Airborne Division. For ETPs for specific unit Annexes, refer to the signature authority for said Annex.
- b. All ETPs may be drafted to cover a single mission, multiple operations over a period of time, or a complete change specific to a unique mission for a particular unit. If an ETP is drafted and accepted for a specific period of time, a new ETP must be drafted and accepted after a Change of Command (CoC) of the requesting Commander or approving Commander to continue the ETP further.

3. Review

a. Units will submit all ETPs to the CAASOP Sub-Committee for record keeping. This will help provide insight and potentially drive further revisions.

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• Chapter 2. Roles, Responsibilities, Qualifications, and Currency.

2.1 Chairman of the Army Airborne Board

1. Designated by the Secretary of the Army, the Commanding General (CG) of the XVIII Airborne Corps will serve as the U.S. Army's lead for the CAF, the principle advisor to the Chief of Staff of the Army for operations involving the CAF and will also serve as Chairman of the AAB.

2.2 Army Airborne Board (AAB)

1. Background

a. The AAB includes those commands, organizations, and agencies required to resolve issues that enable effective decision making by the AABs Chairman of the Board of Directors. The AAB is composed of U.S. Army Active and Reserve component organizations from CAF units that execute SL, aerial delivery, and Military Free Fall (MFF) operations, as well as support from DoD civilians across the U.S. Army's organizations design that employ, resource, or influence DOTMLPF-P aspects for CAF in their respective areas of expertise with research, development, integration and production.

2. Purpose

a. Provide unity of effort in addressing DOTMLPF-P in support of the CAF and to standardize conventional airborne operating procedures, evaluate airborne procedures and operations, and represent the U.S. Army CAF with advice and assistance in the development of U.S. Army, Joint Doctrine, Inter-Operability, and concepts related to the CAF

3. Membership

a. Voting and non-voting members are listed in Appendix J, Army Airborne Board

2.3 Training and Standardization Committee

1. Purpose

a. Focus on institutional, operations, and self-developmental training and standardization to prepare Leaders, Paratroopers, Department of Defense (DoD) Civilians, and organizations to conduct multidomain battle operations and provide common knowledge and skills at the individual level required to perform military duties and activities.

2. Director

a. The CG, 82nd Airborne Division is assigned as the director of the Training and Standardization (T&S) Committee. The Director is also responsible for the collaborative effort within the CAF to create and maintain the CAASOP.

2.4 CAASOP Sub-Committee

1. Purpose

a. To design, maintain and update the CAASOP in order to remain relevant to the CAF. The CAASOP Sub-Committee is governed by the MoA between the Director, T&S Committee and the CAASOP Sub-Committee.

2. Leadership and Key Leaders

- a. **Director.** The Deputy Commanding General of Operations (DCG-O), 82nd Airborne Division is assigned as the Director of the CAASOP Sub-Committee. The Director will ensure recommended revisions to the CAASOP remain within the intended scope of the document's design and evolve procedures accordingly.
- b. **Deputy Director.** The Division Command Sergeant Major (DCSM), 82nd Airborne Division is assigned as the Deputy Director of the CAASOP Sub-Committee. The Deputy Director will ensure the scope of duties, responsibilities, and procedures achieve the appropriate level of risk/safety and align with the operations practices of the CAF.
- c. Administrator. The USAAAS Commander is assigned as the Administrator of the CAASOP Sub-Committee. The Administrator is responsible for coordinating and facilitating the CAASOP Sub-Committee proceedings, drive discussion regarding recommendations to change or redact elements of the CAASOP, record minutes and package feedback from the meetings to share with the CAASOP Sub-Committee members; document evolutions of recommendations; and draft changes to the CAASOP for review for the Director.
- d. **Secretary.** The Assistant Chief of Staff (ACoS) of Operations, 82nd Airborne Division is assigned as the Secretary of the CAASOP Sub-Committee. The Secretary will advise and assist the Administrator and members of the Sub-Committee in the execution of their duties and responsibilities.

2.5. Enabling Staff

1. Air Shop

a. The highest level of staff responsible, usually Division (DIV) or Brigade (BDE), but can be any command level providing support to airborne operations within an organic unit. The Air Shop performs internal and external coordination for the operational unit to conduct and support airborne operations.

b. Planning Phase.

- i. Advisors to the CAF unit Commanders for all airborne related issues.
- ii. Request, coordinate and allocate USAF airlift assets through the JA/ATT program and/or U.S. Army (USA) Aviation assets through appropriate channels.
- iii. Meet subordinate units' training needs by allocating appropriate airlift platforms to meet airborne mission requirements.
- iv. Coordinate and/or oversee the scheduling of the DZ and the associated airspace for the airborne operation. Ensure appropriate Notice to Airman (NOTAM) have been issued for the airspace the operation will be occurring in at https://notams.aim.faa.gov/notamSearch/nsapp.html#/.
- v. Manage allocation of parachute systems across Major Subordinate Commands (MSC).
- vi. Conduct air coordination meetings with MSCs and S-3 Airs for upcoming airborne operations.
- vii. Coordinate, review and route waivers and ETP requests.
- viii. Interface with MSCs and S-3 Airs to resolve problems and re-allocate aircraft and parachutes to meet critical requirements such as validation for deployments, Jumper progression, and pay losses.
- ix. Monitor and direct information flow to enhance mutual support between USAF and USA units.

c. Execution Phase.

i. Monitor airborne operations, identify factors or changes that will impact the airborne operation and interface with all parties to mitigate effects to the operational plan.

2. S-3 Air

a. BDE, Battalion (BN), or Company (Co) level cell, usually consisting of an Air OIC and NCOIC that is subordinate to the Joint Airborne/Air Transportability Training (JA/ATT) owning shop and owns the Airborne Commander.

b. Planning Phase.

- i. Meet subordinate units' training needs by allocating appropriate airlift platforms to meet airborne mission and training requirements.
- ii. Establish the airborne timeline by backwards planning from H hour (time on target). Things to be considered during the planning phase are mission and ground tactical plan; air movement plan to include time of flight, formations, route, direction of flight over DZ, drop altitude, location and design of code letters, racetracks, and emergency call signs/frequencies; names of JM teams, DACO, and DZSO along with a time and location to brief them; transportation plan; tactical cross load plan; weather decision time and location; type of aircraft for the operation along with any special items of equipment to be jumped by individuals or A-series containers; aircraft tail numbers, chalk numbers, and parking plan; landing plan; parachute draw and turn in plan; medical support plan.
- iii. Times and places concerning various aspects of the operation are important. These include manifest call; operations brief/S3 air brief; sustained airborne training (SAT); inspection of uniforms and equipment; parachute draw, issue, recovery, and turn in; load time; station time; take off time; JM/Aircrew brief.
- iv. Chapter 4 has more information on things to consider when planning airborne operations.

c. Execution Phase.

i. Monitor airborne operation, identify factors or changes that will impact the airborne operation and interface will all parties to mitigate effects to the operational plan.

d. Sustainment, Logistics, and Mobility.

- i. Request transportation required for out load and recovery from the DZ/objective area, if necessary.
- ii. Coordinate required class of supply for a successful airborne mission.
- iii. Ensure that large trash bags are available for airborne operations that occur in the rain to keep parachute systems as dry as possible. Preventing parachutes from getting wet helps ensure a quicker turn around for packing and prevents molding and damage.
- iv. Provide meals and hydration at the DAF (if requested) to ensure that Paratroopers are at peak physical condition before conducting airborne operations.
- v. Request, schedule, allocate, and coordinate Special Assignment Airlift Mission (SAAM) aircraft. (SAAM is Point-to-point airland and normally does not include tactical missions for the aircraft supporting the airlift.)
- vi. Provide air items support.

3. Liaison Officer (LNO)

a. The Air Shop may designate individuals to serve as an LNO between USA and USAF at DAF. The Ground Liaison Officer (GLO) is an example of such an LNO. Elements within the USAF Contingency Response Force (CRF) are commonly paired with GLOs from the USA. If a unit does not employ an LNO, the Air Shop is responsible for that capability gap. Host and foreign nations may also employ LNOs that serve similar functions and ensure host nation requirements are met and improve coordination between U.S. Forces and their home country.

NOTE: The examples below are more focused for an LNO serving as a GLO. LNO responsibilities will vary depending on scope, length, purpose, and relationship the LNO is deployed.

b. Planning Phase.

- i. Attend or host coordination meetings when required.
- ii. De-conflict and mitigate issues between organizations to create a better level of understanding for joint operations.

c. Execution Phase.

- i. Attend weather decisions (WX) when required.
- ii. Update aircraft schedule changes to USA from USAF.
- iii. Inform USA of maintenance changes for USAF assets.
- iv. Act as USA/USAF PAX interface.
- v. Help resolve competing priorities between units and troubleshoot major problems at DAF.
- vi. Immediately update USA of any changes that affect the airborne timeline.
- vii. Provide USAF with timely information on USA status at all times.

e. Signal Operations.

i. Plan communication architecture to support Mission Command during the airborne timeline, throughout flight to the objective, and during actions on the DZ.

2.6. The Deliberate Risk Assessment Worksheet (DRAW) Signature Authority and the Airborne Commander

- DoD form 2977, Deliberate Risk Assessment Worksheet. A DoD form 2977 must be completed prior to any airborne operation and signed by the appropriate level Commander. The signature authority must ensure that the DRAW addresses risk factors for each specific mission. Examples of these risk factors must include, but are not limited to: inexperienced Jumpers, door bundles, water hazards, size of operation, Instrument Meteorological Conditions (IMC), special items of equipment, night operations, etc.
- DRAW Signature Authority. The DRAW Signature Authority will be the Commander of the unit responsible for the airborne operation and is responsible for assuming the position of Airborne Commander or assigning the Airborne Commander IAW the limitations listed in this section appropriate for the scope and scale of the airborne operation.

3. Airborne Commander.

a. The designated Leader assigned by the DRAW Signature Authority responsible for the overall safe conduct of the airborne operation. The Airborne Commander should be tactically and technically knowledgeable in the conduct of airborne operations and of appropriate rank and ability to make all decisions that affect the mission within the limits of the DRAW. If a risk occurs that exceeds the DRAW Signature Authority's accepted level of risk, it is the Airborne Commander's responsibility to immediately notify the DRAW Signature Authority and receive guidance in regard to that risk.

b. Qualifications.

- i. Must be JM qualified but is not required to be a current JM as outlined in paragraph 2.7. An ETP is authorized for JM qualification per paragraph 1.7.
- ii. Must be assigned to the command which approved the DRAW for the airborne operation being conducted.
- iii. Must be an O-3/CW-2 or above for airborne operations involving more than three aircraft.
- iv. Must be an E-7 or above for all other operations.
- v. The Airborne Commander should be a Jumper on the airborne operation except for very specific circumstances such as: Practical Work in Aircraft (PWAC); non-standard aircraft operations; heavy equipment (HE) only drops; etc. If the Airborne Commander is not a Jumper, they should be in the most advantageous location to make decisions for the airborne operation and will remain in communication with key PAX until the mission is complete.

c. Restrictions.

i. The Airborne Commander will not serve as a member of any JM Team, DACO Team, or DZSO/DZSTL Team.

d. Responsibilities.

i. Planning Phase.

- 1) The Airborne Commander is overall responsible for the coordination, planning, preparation, supervision, and execution of the airborne operation.
- 2) Coordinate with their S-3 Air and provide clear intent and guidance.
- 3) Ensure load plans are prepared, consolidated, and submitted.
- 4) Confirm critical information for the types of loads (PAX, HE, CDS, combination drops, etc.) and their sequence of release.
- 5) Approve and coordinate use of RACE, Technical Inspection (TI) and Hang, or Late Hang and JMPI with the S-3 Air.
- 6) Coordinate with any unit owning lines following your mission on the same DZ. If timelines require adjustment, communicate issues immediately with USAF/air space controlling agency (via LNO if available) and the other unit's Airborne Commander.
- 7) Designate PJs, AJs, and safeties or delegate that responsibility to the S-3 Air.

- 8) Designate Lift Commanders on large scale multiple lift operations, or a Senior Leader on each aircraft as the Sortie Commander. The Sortie Commander has the authority to make tactical decisions and should consult with the PJ to resolve any problem or changes regarding their chalk. The Sortie Commander will not make decisions regarding operations in the aircraft without the concurrence of the PJ.
- 9) Designate a DACO Team/Marshalling Area Control Officer (MACO) or delegate this responsibility to the S-3 Air.
- 10) Designate the DZSO/DZSTL and supporting party or delegate this responsibility to the S-3 Air.
- 11) Ensure that USAF Drop Zone Controller (DZC) support is coordinated, if necessary.
- 12) Directly communicate and coordinate with the DZSO/DZSTL and ensure they are well informed on the following:
 - a) Airborne timeline.
 - b) Type of jump.
 - c) Aircraft sequence.
 - d) Number of passes, especially when related to no drop scenarios.
 - e) Assembly plan.
 - f) Post-drop operations.
 - g) Parachute/HE/CDS/Equipment recovery plan.
 - h) Critical times and information for any following lines using the same DZ.
- 13) Analyze demands and determine recovery time required for PAX and equipment to clear the DZ.
- 14) Ensure that the composition and assignment of the medical coverage is appropriate for the scale of the operation as outline in Chapter 4.11 and add additional assets to reduce risk if required through the supporting unit's Senior Medic or Operations POC.
- 15) During large tactical airborne operations, the Airborne Commander should have a field grade officer from the jumping unit present for the final Out-Load Coordination Brief.
- 16) When necessary, designate a representative (usually the S-3 Air) at DAF during marshalling and out-loading to coordinate with LNOs and DAF PAX, resolve problems such as marshalling, or last-minute aircraft maintenance problems.
- 17) Make the final decision to scratch chalks, lifts, heavy equipment, or cancel the mission if it has been determined necessary based upon weather conditions, safety concerns, or aircraft maintenance. Maintain communications with the Air Shop and inform them of any changes that may impact the mission.

ii. Briefings.

- S-3 Air Brief. The Airborne Commander or their direct representative will chair the S-3 Air Brief. All participating Commanders, JMs, and key personnel such as the Senior Medic, MALFO, Parachute NCO, etc. should be present to ensure all key participants understand of the Airborne Commander's intent and the mission objectives. For more information on the S-3 Air Brief see chapter 4.11.
- 2) Pre-Joint Mission Brief. Coordinate the JMB between USAF and USA PAX. For tactical operations contact the USAF Airlift Mission Commander for a pre-JMB to ensure that expectations are clear, aircraft configuration is correct, and air crews are organized and prepared to meet the Airborne Commander's intent.

- 3) Joint Mission Brief (JMB). When scheduled and required, the Airborne Commander will attend the JMB along with participating USA and USAF key personnel. The JMB may be conducted 24 hours prior to Load Time (LT). If so, there should be a briefing conducted the day of the operation to ensure no changes have occurred. If the JMB is held the day of the airborne operation it should occur NLT three hours prior to LT. The following are recommended agenda topics for a JMB:
 - a) Unit jumping.
 - b) Purpose of exercise.
 - c) Ground and air intelligence.
 - d) Concept of the operation.
 - e) Total number of Jumpers/equipment to be dropped.
 - f) Parachute types.
 - g) Drop altitude.
 - h) Total number of airland PAX and equipment.
 - i) Location of key PAX by chalk.
 - j) Air and ground abort procedures.
 - k) Number of passes.
 - I) Time to complete "racetracks".
 - m) Follow on missions and types of loads.
 - n) Other contingencies as required (bump plans, down door, towed parachutist, etc)
 - o) If instrument flight rules (IFR) or visual flight rules (VFR) will be utilized.
- 4) Weather Decision (WX). The Airborne Commander or their direct representative and the Airlift Mission Commander will jointly make their WX recommendations during the WX briefing. If the Airlift Mission Commander is not available to attend the WX brief, Out-load Coordination Brief, or JMB, the Air Shop will arrange for a time for the Airborne Commander to brief the Airlift Mission Commander on the operational ground tactical plan. The Airborne Commander, but responsibility for making decisions regarding the operation remain the Airborne Commander's alone. The Airborne Commander must maintain constant communications with the Air Shop for the following reasons: weather issues, safety concerns, A/C maintenance, etc. and can use this information to cancel or modify the mission if necessary. During the Weather Decision the Airborne Commander will make a recommendation for acceptable weather conditions and the following decisions:

The Airborne Commander should discuss any major changes or modifications to the Airborne operation with their Air Shop prior to announcing the decision to allow the Air Shop time to mitigate any impacts.

- a) Jumping in the rain. All units must make coordination with the Air Shop and the Parachute Rigger Facility (PRF) prior to jumping in the rain. If approved, the Airborne Commander is responsible for ensuring each Jumper is issued plastic trash bags that can accommodate the entire parachute system. Units will take every measure to prevent and reduce exposure of the parachute systems to wet conditions before, during, and after the airborne operation. The PRF must communicate the status of their drying towers to the Air Shop so coordination can occur and impact to any real-world mission is mitigated.
- b) Instrument Meteorological Conditions (IMC). Explain the minimum DZ weather conditions required to complete the airborne operation under IMC. A minimum ceiling of 500 feet above ground level (AGL) and a minimum visibility of a half (1/2) mile for PAX and equipment is required for training. Check your unit appropriate Annex to ensure your unit does not have a higher waiver authority to conduct IMC operations.

c) If not previously coordinated, the use of RACE, TI and hang, late hang and JMPI of CE, and any changes of the timeline should be discussed.

iii. Manifesting.

- The Airborne Commander and the JM Team are responsible for ensuring that all PAX manifested to jump, regardless of rank or position, adhere to the airborne timeline and participate fully in sustained airborne training (SAT). The Airborne Commander and PJ have the authority to remove or "scratch" any Jumper from the manifest that fails to adhere to the airborne timeline or fails any portion of SAT.
- Responsible for ensuring that all unit and individual equipment is approved for airborne operations (AUL) and is properly rigged IAW TC 3-21.220, CAASOP, and Master Jumpmaster (MJM) Updates as applicable.
- 3) Manifest the Airborne Commander on the Airlift Mission Commander's aircraft whenever possible and ensure consultation with the Airlift Mission Commander immediately upon learning of any USAF issues or decisions that affect the USA mission.
- iv. **DAF.** Establish communications with the DACO upon arrival at the DAF and ensure that a qualified and informed leader conducts a MACO brief to all Jumpers.
- v. **On the DZ.** If the Airborne Commander is a Jumper they will establish communications with the DZSO once on the ground. This allows the Airborne Commander to capture necessary information that drives decision making. For example, in the event of a Serious Incident, the Airborne Commander and the DZSO can determine whether to continue or cease the airborne operation. The Airborne Commander should collect the following information after each pass:
 - 1) Total Jumpers exited.
 - 2) Did not exit, "red lighted", and the reason why.
 - 3) Malfunctions, entanglements and other incidents by parachute type, pass and stick position.
 - 4) Name, rank, unit, DoD Identification (DoDI) Number, nature of injury, and how each injured Jumper is to be evacuated. If Air Medical Evacuation (MEDEVAC) is required, ensure the DZSO relays that information to the DACO to clear airspace from future passes.
 - 5) Missing PAX or equipment.
 - 6) When utilizing USAF aircraft and there is a suspected off drop zone strike the DZSO will place the aircraft into a holding pattern until the 10-digit grid can be verified. If the 10-digit grid is verified as an off drop zone strike the DZSO will inform the aircraft to return to the DAF for inspection.

Jumpmasters must familiarize themselves with the AUL and rigging procedures to ensure Jumpers are utilizing authorized equipment during the Airborne Operation. When in doubt, reference Chapter 12.

2.7. Jumpmaster (JM)

1. **General Information.** A Jumpmaster is a highly trained, subject matter expert (SME) in all things airborne and is a safety reduction tool put in place by the Airborne Commander. The duties of the JM begin immediately upon notification and end when they have exited the aircraft or are released by the DACO at the DAF. The JM is charged with the safe and efficient execution of the airborne mission at the unit area, at the DAF, and in flight.

All jumpmasters performing duties on a C-17 Globemaster III aircraft must be able to conduct a paratroop door check while maintaining three points of contact with the airframe. This check requires the Jumpmaster to attain an 84-inch reach. Jumpmasters must be evaluated by their unit prior to performing any duties on this airframe.

JMs who do not meet the 84-inch requirement will annotate in their DA Form 1307 "Does not meet 84-inch reach requirement for C-17 Globemaster III."

2. Qualifications.

- a. Be in the rank of Corporal/E-4 or above (continue reading for duty specific rank requirements).
- b. Be a graduate from a USAIS recognized JM Course to include:
 - i. USAAAS JM Course.
 - ii. U.S. Army Infantry School (USAIS) JM Course.
 - iii. U.S. Army Special Operations Command (USASOC) JM Course.
 - iv. USAF JM Course.

3. Primary Jumpmaster (PJ).

a. The PJ is overall responsible for the conduct of the jump and matters of safety on their aircraft. The PJ must consult with the Airborne Commander on any matter that affects the safety of the entire operation or will impact the ground tactical plan (i.e. scratching door bundles, etc.). The Airborne Commander is the final authority when decisions are tactical or affect the tactical operation.

b. Responsibilities.

- i. Evaluation of their JM Team and measuring its proficiency. The PJ will delegate assignments for SAT and hold JM rehearsals before manifest call. If a JM in the JM Team is evaluated as lacking proficiency, the PJ must provide them with remedial training, regardless of rank or position. If the PJ deems a member of the JM Team unable to perform to standard, they will notify the Airborne Commander. Only the Airborne Commander has the authority to relieve a member of the JM Team.
- ii. Ensure all members of the JM Team have reviewed their portions of the CAASOP and are familiar with their responsibilities.
- iii. Remove any Jumper from the manifest that is not prepared to conduct a safe airborne operation due to poor condition of equipment or being physically unable to perform.
- iv. Remain in close communication with the Airborne Commander and update them on any changes that affect the tactical mission.
- v. Oversight of Jumpmaster Personnel Inspections (JMPI) occurring for the Jumpers on their aircraft. The only time a PJ should JMPI is if the chalk is in danger of missing Station Time (ST).
- vi. Ensure all equipment worn by Jumpers are serviceable and authorized for airborne operations.
- vii. The safe and efficient execution of the airborne timeline while ensuring Commander's intent is met.

viii. Exit the first parachute suspended object from their aircraft.

c. Qualifications.

- i. Commissioned Officer, Warrant Officer, or Noncommissioned Officer (NCO) in the grade of E-5 or above.
- ii. Current Jumper.
- iii. Current and qualified JM.
- iv. Previously completed two Safety duties, and two Assistant Jumpmaster duties on a highperformance aircraft.
- v. Be deemed by the Airborne Commander as being highly proficient and capable of successfully conducing the duties of the PJ as listed.
- d. **Successful completion of a duty.** Exiting the first parachute suspended item in a safe manner within appropriate guidelines and procedures listed in T.C. 3-21.220, the CAASOP, and their appropriate Annex.

The PJ can delegate authority, but not responsibility.

4. Assistant Jumpmaster (AJ).

a. The AJ assists the PJ in the execution of the airborne timeline and all duties delegated by the PJ.

b. Responsibilities.

i. The AJ is responsible for conducting JMPI for the Jumpers on their assigned chalk, assisting the PJ in the execution of the airborne timeline, and any other task delegated to them by the PJ.

c. Qualifications.

- i. Commissioned Officer, Warrant Officer, or Noncommissioned Officer (NCO) in the rank of Corporal/E-4 or above.
- ii. Current Jumper.
- iii. Current and qualified JM.
- iv. Previously performed two successful Safety duties on a high-performance aircraft.
- v. Be deemed by the Airborne Commander as being highly proficient and capable of successfully conducting the duties of the AJ as listed.
- d. **Successful completion of a duty.** Exiting a parachute suspended item (after the PJ) in a safe manner within appropriate guidelines and procedures listed in T.C. 3-21.220, the CAASOP, and their appropriate Annex.

5. Safety (SAF).

a. The Safety is generally a non-jumping JM whose primary function is to assist the PJ in maintaining safety of PAX and equipment throughout the entirety of the airborne timeline. Once the PJ has exited the aircraft, the Safeties are then placed under the control of the DACO/MACO until released at DAF.

b. Responsibilities.

i. The Safety is responsible for JMPI for the Jumpers on their assigned chalk, assisting the PJ in the execution of the airborne timeline, and any other task delegated to them by the PJ.

c. Qualifications.

- i. Commissioned Officer, Warrant Officer, or Noncommissioned Officer (NCO) in the rank of Corporal/E-4 or above.
- ii. Current Jumper.
- iii. Current and qualified JM.
- d. **Successful completion of a duty.** Controlling one Universal Static Line (USL), Universal Static Line Modified (USLM), or other item of equipment that is activated by a parachute via static line for a parachute suspended object that exits the aircraft. Additionally, a successful duty would include controlling the flow of Jumpers exiting the aircraft (over the ramp operations).

6. JM Currency.

a. Having a large number of JMs at the disposal of the Airborne Commander is a combat multiplier. It is the personal responsibility of the JM to track and maintain their currency to be available to their Commanders to conduct the airborne mission. If a JM becomes un-current the JM will attend the next available JMR and perform duties required to maintain currency.

b. Currency Requirements.

- i. Must be a current Jumper.
- ii. Novice Rated Jumpmaster. Must perform the duties of the AJ or PJ every 180 days.
- iii. Advanced Rated (Senior or Master) Jumpmaster. Must perform the duties of the Safety, AJ, or PJ every 180 days.
- iv. JMs who become uncurrent as Jumpers cannot perform JM duties. Upon completion of BAR and exiting from an aircraft, provided they meet all other qualifications, they can resume JM duties.
- v. JMs on "No Airborne Operations" or "No Jumping" limiting medical profiles will not perform duties of the PJ, AJ, or SAF. They may execute the duties of the DACO or DZSO if those duties do not violate their limitations and are still a current Jumper and JM.

7. Progression and refresher training.

- a. Baseline training. Newly graduated Jumpmasters must perform two SAF duties and one AJ duty on a high performance aircraft no later than 180 days after graduation to obtain initial baseline currency. If a JM fails to complete their baseline currency, they must attend the next available JMR and begin their baseline progression from the beginning.
- b. If a JM fails to perform a duty commensurate to their rating within the 180 day window, they must attend a Jumpmaster Refresher (JMR). Once the JM successfully completes JMR, they must conduct a duty commensurate to their rating within 180 days of graduating. See the Jumpmaster Currency/Progression Flow Chart below.

8. Rotary wing and non-standard aircraft.

- a. JM duties from rotary wing and non-standard aircraft, regardless of what position Jumpers are exited from (standing or sitting), counts as currency for a 180-day period:
 - i. When the previous JM duty was conducted from a high-performance aircraft
- b. The next JM duty for currency must be conducted from a high-performance aircraft. JMs can conduct consecutive JM duties from rotary wing and non-standard aircraft however they will not count for currency unless the previous duty was performed on a high performance aircraft.

Jumpmaster Currency/Progression Flow Chart			
Category	Status	Progress	Requirements
1.	New JM Grad	Need to baseline.	 a. 2 x SAF and 1 x AJ = baseline (within 180 days of graduation effective date). b. Perform AJ/PJ duty every 180 days.
2.	New JM Grad	Failed to baseline.	a. JMR and restart baseline. b. Perform AJ/PJ duty every 180 days.
3.	Novice JM	Completed baseline.	a. Baseline plus 1 additional AJ = PJ qualified. b. Perform AJ/PJ duty every 180 days.
4.	Novice JM	Un-current (failed to perform AJ/PJ duty in past 180 days).	a. JMR + 1 x SAF + 1 x AJ = PJ qualified. b. Perform AJ/PJ duty every 180 days.
5.	Advanced Rated JM	Un-current (have performed a PJ duty in the last 365 days).	a. JMR = PJ qualified b. Perform SAF/AJ/PJ every 180 days.
6.	Advanced Rated JM	Un-current (have not performed a PJ duty in over 365 days).	a. JMR + 1 x AJ = PJ qualified. b. Perform SAF/AJ/PJ every 180 days.
7.	Un-current JM (All ratings)	Un-current (have not performed JM duties for greater than 18 months).	a. JMR + 2 x SAF + 1 x AJ = PJ qualified. b. Perform SAF/AJ/PJ every 180 days.
Category	Status	Progress	Requirements
8.	Tier II	Un-current (have not performed JM duties for 180 days and cannot get into JMR).	a. Perform requirements as listed above per JM's rating. b. JMPI six CE Jumpers every 90 days
9.	Tier II	Un-current (have not performed JMPI on six CE Jumpers in the last 90 days)	 a. Perform requirements as listed above per JM's rating. b. JMR = Tier II + JMPI six CE Jumpers every 90 days.
 Baseline currency (2 x SAF, 1 x AJ) does not qualify a JM to perform PJ duties. An additional AJ must be performed before being qualified to conduct a PJ duty. If a newly graduated JM anticipates an inability to complete their baseline within 180 of their graduation date, they may attend JMR and restart their baseline currency before the 180-day period expires. "Qualified" for PJ duties does not require the JM to conduct the duties of a PJ. JMs must perform the 			

duties of the SAF, AJ, or PJ (depending on rating) to remain in Tier I.

Table 2.7a. – Jumpmaster Currency / Progression Flow Chart

9. Tiered JM Currency.

a. Annex owning Commanders may implement a tiered JM currency model. If implemented, Commanders will explicitly specify that a tiered JM currency model is in effect within their Annex. In a tiered JM currency model, JMs are categorized as either Tier I or Tier II according to the following table.

TIER	QUALIFICATIONS	SCOPE
Tier I	1. Current and qualified JM IAW TC 3-21.220.	All duties per progression model listed in CAASOP.
Tier II	 Current Jumper. Has completed initial baseline. Has performed satisfactory JMPI on at least six CE Jumpers every 90 days since last current as a Tier I JM. 	JMPI Only.
Annex approving Commanders may state additional qualifications within Annexes but may not lower standards as set in this table.		

Table 2.7b – Tiered Jumpmaster Program

- b. Adopting units will establish SOPs to track Tier II JM currency. It is recommended that a separate DA form 1307 be used to track Tier II currency for conducting the appropriate number of Jumpers in CE JMPI'd. Units (typically BN/Squadron (SQDN)) will inspect Tier II currency records along with jump logs IAW Appendix I and per unit standard for tracking Tier II JMs.
- c. Once a JM becomes a Tier II JM, the only way they can become a Tier I again is to attend JMR and perform the JM duties required commensurate to their rating.
- d. Tier II currency is non-transferable. If Tier II JM transfers to another unit, the JM becomes un-current and must attend the first available JMR to return to Tier I.
- e. Tier II JMs will not be authorized to receive Jumpmaster Hazardous Duty Incentive Pay (HDIP) if or when it is authorized.

10. Jumpmaster Transferability.

- a. All CAF units are required to institute a JM Reception and Integration Program. The BDE Commander assumes the risk and is overall responsible for their unit's program. The BDE Commander can delegate authority, but not responsibility, to BN Commanders for administration and execution of the program. This includes the appointment of Master Jumpmasters (MJM) to evaluate incoming JMs and execute refresher training as needed.
- b. Current and qualified JMs transferring from one paid parachutist position (PPP) to another PPP after completing a Permanent Change of Station (PCS) or intra-post transfer will retain currency and HDIP at their gaining unit until they fail to meet currency and hazardous duty requirements for HDIP entitlements. The following actions are required to be taken by the losing and gaining units:
- c. **Losing unit.** The losing unit has the responsibility to ensure that prior to leaving the JM has their records completed accurately and properly annotated. Incorrect or poor documentation directly affects the JMs pay, time, and training requirements upon in-processing their new unit.
 - i. The JM will be provided a Continuity Memorandum for Record (MFR), signed by the unit Commander (O-5 or above) stating that the JM is current and in good standing as a JM as well as list their last JM duty. An example MFR can be found on the USAAAS and AAB DEPS pages.

- ii. The unit Jump Log Custodian will annotate on the JMs DA form 1307, *Individual Jump Record*, TRANSFERRED TO NEW UNIT on the next available opening on the DA form 1307. The only time the term "CLOSED" will be used is to stop pay due to the JM no longer filling a PPP.
- iii. Provide the JM with their entire jump log with all supporting documentation to turn into the gaining unit during in-processing.

Units must ensure they out-process their Paratroopers properly and with current jump logs to ensure they are set up for success at their next assignment.

- d. **Gaining Unit.** The gaining unit has the responsibility to validate the incoming JM's level of proficiency and scheduling the appropriate level of training required to get the JM to Tier I status.
 - i. Evaluate the Continuity MFR along with supporting documentation and establish the JMs jump log per unit SOP. If the JM cannot produce a Continuity MFR they must be scheduled for the next available JMR.
 - ii. Designate a unit MJM to validate the following:
 - 1) JMPI sequence.
 - 2) Understanding and execution of the SERJTE brief.
 - 3) Validation of actions in the aircraft as both an AJ/PJ and SAF. Emphasis should be placed on the duties of the SAF.
 - 4) Orient the JM to unit specific equipment, SOPs, and standards that may differ from their losing unit (i.e., arctic equipment).
 - iii. Schedule the JM to perform a JM duty before their currency expires. It is suggested that the JM's first duty be that of the SAF but **must** be from a high-performance aircraft (C-130 series, C-17 Globemaster III, or C-27J Spartan).

2.8. Master Jumpmaster (MJM)

 General Information. MJMs are selected by their Commanders due to their high level of JM proficiency, attention to detail, professionalism, independence, leadership, and efficiency. Each DIV, BDE, and BN should appoint an MJM on additional duty orders (ADO). When a JM is appointed to the position of MJM, they are committing to a secondary duty assignment and will be placed on ADOs by the appropriate Commander. A NCO serving in the units Air Shop is generally, but not always, a good choice to serve as that units MJM.

2. Responsibilities.

- a. Assist in the integration of all new, or newly assigned, JMs.
- b. Assist the Commander in the continued education and proficiency of the units JMs.
- c. Observe, critique, and advise unit Jumpers and JMs.
- d. Identify and communicate positive and negative trends influencing the execution of the unit airborne operations.
- e. Advise the Commander on the status of the unit's overall airborne proficiency.

- f. Remain aware of emerging trends across the CAF. Remain educated on SOPs and regulations related to the safe execution of airborne operations.
- g. Enforce Army and unit standards and policies for the execution of airborne operations.
- h. Evaluate and provide feedback on the unit's airborne operations to leadership.
- i. Submit reports with recommended courses of action to the Commander for matters involving the level of proficiency of the unit.
- j. Mentors future JMs to become MJMs.
- k. Maintain a continuity book of reports published during their tour.

3. Qualifications (suggested).

- a. Highly competent JM who possesses a superior level of knowledge and displays considerable attention to detail.
- b. PJ qualified and completed the duties of the DZSO/DZSTL (does not need to be Pathfinder qualified to be an MJM) and DACO.
- c. Capable of coaching, mentoring, and providing expert advice and critiques to Jumpers and JMs as they execute training or any phase of the airborne timeline.
- d. SMEs on all rigging procedures and serviceability of equipment within the unit's inventory.
- 4. **Currency.** MJMs must be a current and qualified JM and on ADOs from the appropriate level Commander.
- 5. **Refresher training.** The USAAAS holds quarterly MJM courses with evolving POI. MJMs are encouraged to take the course and return to receive the most current trends and guidance.

2.9. Departure Airfield Control Officer (DACO)

1. General Information. The DACO is the Airborne Commander's representative at the DAF and reports directly to the Airborne Commander and the Air Shop. Under the direction of the Air Shop, the DACO will execute the out-load of PAX and equipment from DAF, liaise between USAF and USA, document the airborne operation via the flash report, maintain communications with the DZSO and GLO (if available), and ensure the proper use and clean-up of DAF. Regardless of rank, the DACO is the release authority for the DZSO and SAF upon returning to DAF, and all assigned detail personnel under them.

2. Responsibilities.

- a. Upon notification, the DACO will review Chapters 6, 7, 8, Appendix D, *Forms, Checklists, and Reports,* and Annex H, *Serious Incident Response Procedures and Checklist* of the CAASOP.
- 3. Qualifications. (Reference your unit Annex for additional rank, experience, and rating requirements)
 - a. The DACO must be a current and qualified JM in the rank of SGT or above.
 - b. The Assistant DACO (ADACO) must be a current and qualified JM in the rank of CPL and above.
 - c. Before serving as the DACO, the JM must have served successfully as an ADACO at least once in their career.
- 4. Currency. There are no currency requirements for performing the duties of the DACO or refresher training.

2.10. Drop Zone Safety Officer (DZSO) / Drop Zone Support Team Leader (DZSTL)

- 1. **General Information.** The DZSO and DZSTL are under direct operational control of the DACO and serve as the Airborne Commander's representative on the DZ. The entirety of the control group managing the DZ is referred to as the Drop Zone Support Team (DZST). This may be a joint formation of USAF and USA or entirely USA PAX (see table 8-1 for DZST configurations).
- 2. DZSO. A DZSO is required when USAF Drop Zone Controllers (DZC) are supporting the airborne operation and will ensure the DZ meets all operational and safety criteria for the type and scale of the airdrop being conducted. This will include, but not limited to: establishing the Personnel Point of Impact (PPI) and/or Heavy Equipment Point of Impact (HEPI); ensuring appropriate medical coverage is present; identifying and clearing hazards on the DZ and that they are addressed on the DRAW; communicating and controlling all support personnel on the DZ; determining surface wind speeds and direction; communicating with USAF aircraft for final clearance to drop; accountability of all personnel and equipment airdropped; coordinating no drop signals and action etc.
- 3. **DZSTL.** When USAF DZC are not supporting the airborne operation, such as rotary wing aircraft missions, a qualified DZSTL will execute the entirety of the airdrop to include the airdrop release method and all responsibilities of the DZSO.
- 4. **DZC.** The DZC is a USAF team responsible for the airdrop release method for USAF aircraft and control of active Flight Landing Strips (FLS). They are in direct support of the DZSO and are required when five or more aircraft are involved in the airborne operation and on a DZ located outside of military range airspace control (both criteria must be met before USAF DZCs are required).
- 5. **Responsibilities.** Upon notification, the DZSO/DZSTL will review Chapters 2, 4, 7, 8, Appendix D, *Forms, Checklists, and Reports*, and Appendix H, *Serious Incident Response Procedures and Checklist.*
- 6. Qualifications. (Reference your unit Annex for additional rank, experience, and rating requirements)
 - a. DZSO and Assistant DZSO (ADZSO).
 - i. The DZSO must be current and qualified JM in the rank of SGT or above.
 - ii. The ADZSO must be current and qualified JM in the rank of CPL or above.
 - Before serving as the DZSO, the JM must complete a "shadow" of a successful DZSO operation. A shadow is described as assisting a fully qualified DZSO in all aspects of the duties outlined in Chapters 4 and 8.

b. DZSTL and Assistant DZSTL (ADZSTL).

- i. The DZSTL must be a current and qualified JM in the rank of SGT or above.
- ii. The and ADZSTL must be a current and qualified JM in the rank of CPL or above
- iii. Before serving as a DZSTL, the JM must complete a "shadow" of a successful DZSTL operation.
- iv. For MFF operations, the DZSTL must be a current and qualified JM in the rank of SGT or above and comply with USASOC Regulation 350-2, *Airborne Operations*.
- v. For airborne operations that utilize Ground Marking Release System (GMRS) or Verbally Initiated Release System (VIRS), the DZSTL will also be Pathfinder or DZSTL trained by an approved course that is certified on GMRS and VIRS (USASOC JM Course or DZSTL TSP).

- 7. **Currency.** The JM must perform the duties of the DZSO or ADZSO / DZSTL or ADZSTL for a successful airborne operation where a minimum of one parachute suspended object lands on the surveyed DZ and a total of 90% of the total parachute suspended items land on the surveyed DZ every 180 days.
- 8. **Refresher Training.** A DZSO refresher course (for CARP operations) can be conducted by any individual that is a current and qualified JM and DZSO/DZSTL. Un-current DZSOs must be a current and qualified JM and complete the DZSO requirements of the JMR curriculum found in TC 3-21.220, *Static Line Parachuting Techniques and Training,* Appendix C, *Jumpmaster Refresher Course* (estimated two-hour period of instruction). The level of training will dictate the level of certification the instructor must possess. To be recertified for GMRS/VIRS, the instructor must be a current and qualified JM and current and qualified on GMRS/VIRS at the time of holding the training.
 - a. Currency of refresher training is 180 days.
 - b. Progression does not reset. If the JM is fully progressed to perform the duties of the DZSO, they will be fully qualified to immediately assume the duties of the DZSO upon completion of refresher training.

2.11. Jumper

- 1. **General Information.** Jumper is a term used to identify a Paratrooper that has been manifested and physically and mentally prepared to take part in an airborne operation.
- 2. **Responsibilities.** All Jumpers have the responsibility to remain physically fit, mentally agile, proficient in their airborne and MOS skills, and maintain their equipment at a high level.

3. Qualifications.

- a. Successfully graduated the Basic Airborne Course (BAC).
- b. Filling a valid PPP.
- c. On hazardous duty orders (HDO).
- 4. **Currency.** Current Jumpers must conduct an official military static line airborne operation every 180 days.
- 5. **Refresher training.** BAR can be conducted by any current and qualified JM. Jumpers must fill a PPP, be on current HDOs and complete the requirements of TC 3-21.220, *Static Line Parachute Techniques and Training*, Appendix A, *Basic Airborne Refresher Training* (estimated eight hours of training).
- 6. **Restrictions.** Certain special items of equipment have size requirements for Jumpers, such as the M3 Multi-role Anti-armor Anti-Tank Weapons System (MAAWS, Carl Gustav) and the Stinger Missile Jump Pack (SMJP). Reference Chapter 12 for all requirements for specific items of equipment.
| | Jumper Currency/Progression Flow Chart | | | | | | | |
|----------|--|---|--|--|--|--|--|--|
| Category | Status | Progress | Requirements | | | | | |
| 1. | T-10D/ MC1-1D
Qualified | have not jumped within the last two years | a. Attend BAR & T-11 NET
b. Conduct a daytime Hollywood jump
(can be waivered by O-5), then a
daytime combat equipment jump | | | | | |
| 2. | T-11/ MC-6
Qualified | have jumped within the last two years | a. Attend BAR
b. Conduct a daytime combat
equipment jump | | | | | |
| 3. | T-11/ MC-6
Qualified | have not jumped within the last two years | a. Attend BAR
b. Conduct a daytime Hollywood jump
(can be waivered by O-5), then a
daytime combat equipment jump | | | | | |

 Daytime is considered to be NLT one half hour prior to End of Evening Nautical Twilight.
 Completion of the steps outlined in this table qualifies a Jumper to participate in any type of operation up to and including night, combat equipment, mass tactical.

3. The O-5 waiver that allows the Jumper to skip the daytime Hollywood jump should be issued by the first O-5 in the chain of command.

Table 2.11a – Jumper Currence	cy / Progression Flow Chart
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2.12 Malfunction Officer (MALFO)

- 1. **General Information.** MALFOs are trained and certified Riggers (holding the MOS of 92R, 921A, or 92AR9) and are required to be present for all official military airborne operations. The MALFO will be supplied from the organization responsible for packing the parachutes used on the airborne operation.
- 2. **Responsibilities.** The MALFO is responsible for recording, monitoring, and investigating any incident or malfunction during an airborne operation. The MALFO will be knowledgeable with the requirements and procedures contained in AR 59-4, *Joint Airdrop Inspection Records, Malfunction/Incident Investigations, and Activity Reporting,* Chapters 3, 4, and 5.

3. Qualifications.

- a. The MALFO will be a current and qualified Rigger (MOS 92R, 921A, or 92AR9) in the grade of E-5 or above. The MALFO qualifications may be waived for a Soldier with MOS 92R1P when recommended by the senior airdrop systems technician (MOS 921A) in charge of that organization or other authorized unit supervisors according to AR 750-32, *Airdrop, Parachute Recovery, and Aircraft Personnel Escape Systems* and approved by the first O-5 in the CoC. Qualified and authorized E-4 MALFOs are limited to single ship missions only. Army National Guard and U.S. Army Reserve personnel meeting the above requirements are considered qualified MALFOs as civilian technicians.
- b. Trained and certified according to the online training support package provided by the United States Army Quartermaster Center and School (USAQMC&S) annually.
- c. Be from the parachute rigging facility responsible for packing the parachutes utilized on the airborne operation.
- 4. Currency. MALFOs will be trained and certified IAW the POI and lesson plans provided by USAQMC&S.
- 5. **Refresher training.** All MALFOs will recertify on an annual basis.

2.13 U.S. Air Force (USAF)

1. **General Information.** The USAF works in tandem with USA Airborne Forces to conduct Joint airborne operations ISO the Immediate Response Force (IRF), worldwide deployments, and training requirements.

USA to USAF Equivalent Parties					
USA	USAF				
Division/Brigade	Air Wing				
Airborne Commander	Airlift Mission Commander				
Air Shop / S-3 Air / DACO / GLO	CRF / AMCC				
S-3 Air / A/DACG / DACO / GLO	AMS				
DZSO / DZSTL	STS / CTT / AMLO				

Table 2.12a – USA To USAF Compariso	n
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2. **Responsibilities.** The USAF is responsible for delivering the CAF to the right objective, at the right time, in the right sequence, with the right equipment. For any airlift operation, the USAF air crew must brief the emergency procedures to the passengers prior to takeoff.

3. Key PAX.

a. Airlift Mission Commander.

i. **General Information.** For all airborne operations, airlift forces are directed, supervised, and controlled by a designated Airlift Mission Commander. The rank requirements are designated by USAF Operational Order (OPORD) 17-76 and based on the scale of the operation.

ii. Responsibilities.

- A. Develop load, landing, and air movement plans in conjunction with the Airborne Commander.
- B. Supervise the loading, unloading, and tying down of cargo.
- C. Configure all aircraft IAW jointly coordinated load plans.
- D. Provide loading ramps, Material Handling Equipment (MHE), tie downs, and other auxiliary equipment for loading and transporting USA equipment and cargo.
- E. Securing and/or ejecting all USA equipment and cargo IAW the load and delivery plan, except those containers and bundles that USA will push from the paratroop doors as part of the airborne operation.
- F. Verify PAX and equipment manifests.
- G. Make the WX recommendation to continue or abort the mission based on conditions and aircraft limitations.
- H. Provide accurate time warnings to JM Teams as coordinated at the JMB.

b. USAF Command and Control (C2).

i. **General Information.** USAF C2 serves as the principal point of contact for final coordination between airlift and airborne forces and supports USA forces with aircraft for planned, no notice Emergency Deployment Readiness Exercises (EDRE), and contingency operations.

ii. Responsibilities.

- 1) Controls aircraft operations at DAF.
- 2) Coordinates, supervises, directs, and executes USAF mission plans, directives, and orders.
- 3) Provides USA forces copies of aircraft parking plans, to include tail numbers.
- 4) Develops aircraft loading plans with USA.
- 5) Schedules and hosts JMBs.
- 6) Coordinates flight clearances.

c. USAF Aerial Port.

i. **General Information.** Aerial ports are defined as either the Aerial Port of Embarkation (APoE) for the designated loading port or the Aerial Port of Debarkation (APoD) for the designated off-loading port.

ii. Responsibilities.

- 1) Inspect USA and USAF equipment for correct preparation and rigging at the call forward area.
- 2) Joint Inspectors conduct Joint Inspections (JI) on airland equipment only. Airland equipment is rolled or driven onto USAF aircraft and off-loaded at APoD.
- 3) Joint Airdrop Inspectors conduct Joint Airdrop Inspections (JAI) on equipment and cargo to be dropped onto the DZ during an airborne operation.
- 4) Work with the Arrival/Departure Airfield Control Group (A/DACG), if present, to support the outload process.
- 5) Supervises PAX and cargo loading.
- 6) When operating from established airfields (i.e. Aviano Air Base, Italy) that do not have an A/DACG or adequate equipment and facilities, USAF and USA will provide necessary PAX and equipment to serve the function of an A/DACG and aerial port.

d. USAF Drop Zone Controller (DZC).

i. **General information.** The DZCs mission is to rapidly establish assault zones, DZs, landing zones (LZ), and extraction zones (EZ) in austere and non-permissive environments. The mission includes initial placement of enroute and terminal navigation aids, control air traffic, providing C2 communications, and removal of obstacles and unexploded ordnance using demolitions.

ii. Responsibilities.

- 1) Confirm markings for DZ, LZ, or EZs.
- 2) Establish ground to air communications with USAF aircraft.
- 3) Relay wing and weather reading to USAF aircraft.
- 4) Provide the DZSO with ceiling conditions if necessary.
- 5) Exercise air traffic control of all USAF aircraft in the objective area.
- 6) Represent the USAF during joint selection and survey of DZ, LZ, and EZs to include:
 - i. Special Tactics Squadron (STS).
 - ii. Combat Controller Teams (CCT).
 - iii. Air Mobility Liaison Officer (AMLO).
- 7. Coordination and requesting support. To request DZC support contact the Air Shop prior to the airborne timeline or during regular air meetings.

iii. **Restrictions.** DZCs are subject to 12-hour duty day restrictions. Extensions for AMLOs are authorized when approved by the host U.S. Army Commander.

2.14. Arrival/Departure Airfield Control Group (A/DACG) and USAF Contingency Response Forces (CRF)

1. **A/DACG.**

a. **General information.** The A/DACG is a USA entity located at select U.S. military airfields and is comprised of military and civilian PAX with the primary mission to provide air movement service support by controlling the arrival and out-load of equipment and PAX. The A/DACG is a key element to ensure the out-load process meets all required procedures, regulations, and requirements established by the USAF and the Department of Transportation (DoT) per Defense Transportation Regulation (DTR) 4900.9-R and AFMAN 24-204. The Director of Logistics (DoL) on an installation will normally provide A/DACG and support for airborne operations originating at a DAF.

b. Responsibilities.

- i. Provide the area and facilities to conduct the required inspections, weighing, marking, and securing of airdrop and airland equipment.
- ii. Provide aerial port/terminal processes for out load of PAX.
- iii. Conduct JI and JAI with Load Planners, Riggers and USAF PAX of all airdrop and airland equipment.
- iv. Ensure all required documentation is correct and accepted by the USAF (see Chapter 5).

2. USAF Contingency Response Force (CRF).

- a. **General information.** USAF CRF are highly specialized in training and rapidly deploying PAX, quickly opening airfields, and establish, expanding, sustaining, and coordinating air mobility operations. CRFs are divided into three echelons: Groups, Elements, and Teams. The echelon utilized is determined by the scale and requirements of the operation.
- b. **Echelons.** Each echelon is designated to manage a certain number of aircraft on a working ramp over a designated period of time, referred as Maximum on the Ground (MoG). An example of MoG would be two aircraft on the ground at any one time 24 hours a day is referred to as "two x 24 hrs".

c. Contingency Response Group (CRG).

- i. Led by an O-6.
- ii. MoG of two x 24 hrs (potential for increased capacity, but this should not be planned against.
- iii. Consists of 12 C-17 Globemaster IIIs for airlift and 120 PAX.

d. Contingency Response Element (CRE).

- i. Led by an O-5/O-4.
- ii. MoG of two x 24 hrs.
- iii. Consists of approximately six C-17 Globemaster IIIs for airlift and 80 PAX.

e. Contingency Response Team (CRT).

- i. Led by an E-6 or above.
- ii. MoG of one x 12 hrs.

- iii. Consists of one to three C-17 Globemaster IIIs for airlift and 15-30 PAX.
- 3. **Restrictions.** CRFs do not have Joint Inspectors or Joint Airdrop Inspectors and must be augmented by certified USAF PAX to support an airdrop mission. European Command (EUCOM) and Pacific Command (PACOM) may have CRF with airdrop experience.

2.15. U.S. Army Aviation

1. **General information**. USA Aviation is responsible for providing the CAF aircraft for airborne, airland, and air assault operations upon accepting the request or tasking.

2. Responsibilities.

- a. Deliver the Airborne Commander the aircraft emergency procedures prior to the airborne operation.
- b. Brief the emergency procedures before the execution of the airborne operation.

2.16. Parachute Riggers and Parachute Rigger Facilities (PRF)

1. Parachute Riggers.

- a. **General information.** Parachute Riggers (Riggers) are trained material and packing experts for military parachute systems who hold the MOS of 92R, 921A, or 92AR9.
- b. **Responsibilities.** Riggers are responsible for the maintenance, repair, storage, packing and issue of military parachutes to the CAF and provide Rigger support during all airborne operations. Riggers also man and oversee the operation of PRFs, and if applicable, the ready cage.

2. Parachute Rigger Facility.

a. **General Information.** The Quartermaster (QM) Heavy Drop Rigging Site (HDRS), Parachute Issue Facility (PIF), parachute shake-out tower, and the parachute packing facility are generally synonymous with a PRF. The HDRS does not necessarily constitute a fixed structure.

b. Responsibilities.

- i. Assign MALFOs for all airborne operations.
- ii. Units that own and operate 34' towers, their assigned Rigger Facility will facilitate the construction of air items for the 34' towers.
- iii. Coordinate the issue of air items. Allow for extra parachutes when the unit is not rigging at DAF (alternate ramps, field landing strips (FLS), in-flight rigging, etc).
- iv. Communicate to the Air Shop the availability of parachutes/air items, drying tower space, etc.
- v. Supervise and inspect rigging of HE; coordinate and monitor JAI.
- vi. Maintain a duty NCO phone number so the Air Shop can coordinate receipt of air items at the PRF after hours ISO operations occurring outside of normal duty hours.
- vii. Provide Rigger support to units during the issue and donning of parachutes, including in-flight rigging and off post exercises.

2.17. Air Load Planner

- General information. Load planners are PAX trained and certified by the Air Movement Control Officer Course at Fort Bragg, or the Strategic Mobility Course at Fort Eustis. PAX who serve as Load Planners must be placed on additional duty orders (ADO), familiar with all organic equipment, and be knowledgeable on the following: USAF organizations and terminology; load planning and air transportability of unit Table of Organization and Equipment (TO&E); and the characteristics and capabilities of each type of aircraft the unit may use in airlift operations. Primary and Assistant Load Planners have the same requirements and responsibilities.
- 2. **Responsibilities.** Load planners consolidate subordinate unit's load plans to create a comprehensive air movement load plan ISO of the airborne operation's ground tactical plan. The air movement plan captures

the preparation, marshalling, loading, and design of the equipment delivery during airdrops and airland assaults. This includes, but is not limited to:

- a. Plan out-load for HE, CDS, and airland equipment for the unit's Commander.
- b. Supervise unit training for all PAX that will be building pallets and conducting tie down procedures.
- c. Maintain qualified unit air loading and movement teams ISO the AMO Team Concept.
- d. Maintain the Air Movement Folder. Forms include:
 - i. Internal unit SOP.
 - ii. Appointment orders for all AMOs.
 - iii. Load packets for all equipment:
 - 1) DD form 2133, Joint Airlift Inspection Record/Checklist x 2.
 - 2) AMC Information Management Tool (IMT) Form 1033 x 3.
 - 3) Shipper's Declaration for Dangerous Goods (SDDG).
 - 4) U.S. Forces Command (FORSCOM) 285-R.
 - 5) Military Shipping Labels (MSL) x 2.
 - 6) Ammo issue card x 3.
 - 7) Chalk cards (blue for airdrop x 2, white for airland x 2)
 - 8) Applicable Air Transportability Test Loading Agency Certification Letter (if required).
 - 9) DD form 2130, Load Plan.
- e. Supervise the preparation of all vehicles and equipment for air movement.
- f. Supervise and coordinate unit out-loading operations.
- g. Directly liaise with aerial port PAX for movement of equipment to DAF.
- h. Inspect all load plans and manifests for accuracy.
- i. Off-load and assembly of airland elements at the arrival airfield.
- j. Ensure communication architecture exists to support reporting and situational awareness for the AMO Team Concept.
- k. Keep Commanders informed on aspects of the air movement operation that may impact the operational timeline or capabilities of the ground tactical force.

 Currency. All AMOs that have graduated the USAAAS AMCO course are certified Load Planners and Hazardous Material (HAZMAT) Certifiers. Load planning and certifying HAZMAT are two separate certifications. Load Planners who do not have a current HAZMAT certificate can still create load plans. AMOs must recertify every 24 months through an approved course listed in the general information of this section.

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• Chapter 3. Unit Training and Sustainment.

3.1. General Information

The proper use and rigging of equipment, exiting an aircraft, avoiding entanglements, and landing safety on the ground is not a natural or easy task to accomplish. Continuous training is essential to keep your Jumpers safe from injury or death, and equipment from damage or loss. Training listed in this Chapter and throughout the CAASOP is one of the Airborne Leader's basic responsibilities and is governed by TC 3-21.220.

3.2. Individual and Unit Training

1. Basic Airborne Refresher (BAR).

a. **General information.** Jumpers who are unable to conduct a static line (SL) jump within 180 days following their last SL jump or who have not jumped with their unit's parachute system(s) will complete BAR. Those individuals that require transition training to an unfamiliar parachute system will also require new equipment training (NET). Jumpers who require NET will be identified at the beginning of training and may have it conducted as part of BAR.

BAR is a complete refresher that includes in-depth, performance-based training while SAT is utilized to familiarize the jumper with a specific airborne operation they will be conducting in the near future. Training is performance based. If substandard performance is demonstrated, retrain the jumper on the spot.

2. Experienced Jumper Transferability.

- a. Annex approving authorities may adopt an experienced Jumper transferability policy. The policy must be explicitly outlined in their appropriate Annex.
- b. O-5 Commanders may waive BAR training for Jumpers transferring from a PPP directly into another PPP and have completed a military static line jump within 180 days of their projected first jump in their new unit.
- c. If BAR is waived, an MFR signed by the O-5 Commander should be included in the records that accompany their Jumper's DA form 1307 and be annotated IAW Appendix I, *Administrative Records and Finance.*
- d. Commanders must carefully consider Jumper attributes and experience levels before granting a BAR waiver. Consideration should be taken for the type of unit the Jumper is leaving, types of parachutes utilized previously, as well as the individual proficiency of the Jumper in question.

3. Training requirements.

- a. BAR must be conducted by a current and qualified JM. CAF Unit Commanders and their JMs should tailor training to the experience level of the Jumper, adding to the minimum training requirements whenever necessary to ensure that all Jumpers have the knowledge and skills required to conduct an airborne operation safely. If a Jumper has been separated from the airborne community for greater than two years or lack a sufficient baseline knowledge of their airborne skills, it is the responsibility of the unit to ensure that the JMs possess the necessary knowledge and ability to reintroduce the Jumper to the airborne standard. Record keeping of the completion of BAR can be recorded on an MFR or on a BAR slip that must be turned into the Jump Log Custodian and recorded on the DA form 1307. Records must be maintained at the unit level for a minimum of two years. BAR must include, but is not limited to;
 - i. Checking Common Access Card (CAC), Identification Tags, helmet, air items, and jumpable pack to ensure they are all present and serviceable.

- ii. Conduct a rigging exercise (RIGEX) with detailed instructions for the specific jumpable pack the Jumper has on hand and the Modular Airborne Weapons Case (MAWC). All CE will be inspected after the period of instruction (POI) to ensure proper performance was conducted and equipment is rigged to standard.
- iii. Perform a fit and wear class for the parachute system your unit utilizes to include the attaching, lowering, and jettisoning procedures for combat equipment (CE). (NET PAX are required to physically don the parachute system with CE during this portion. If the student is assigned a special item of equipment, this will be addressed as well.)
- iv. Pre-Jump IAW Appendix E or the most current MJM Update.
- v. Parachute Landing Falls (PLF) IAW Appendix E or the most current MJM Update.
- vi. Static Line Control, Exiting Procedures, Red Light Procedures, Jump Refusals, Towed Jumper Procedures, and Emergency Procedures (SERJTE) IAW Appendix F or the most current MJM Update.
- vii. Mock door training to include individual graded exits and mass exiting procedures.
- viii. Suspended harness training (if available) to include the first four points of performance, properly lowering CE, and pulling slips in all four directions.
- ix. 34-foot tower training (if available) IAW TC 3-21.220.
- x. The initial jump following BAR should be performed from a high-performance aircraft to satisfy training requirements, however, not all CAF units can support this level of training within the allotted 60 days. Therefore, Jumpers can satisfy the currency requirements for BAR by conducting a static line parachute jump from any aircraft within the allotted 60 days. An extension of 30 additional days for a total of 90 days from the BAR completion date can only be approved by an ETP signed by the first O-5 in the Jumper's chain of command. This memorandum for record will be added to the individuals jump log.

In all cases, a Jumper who has not exited an aircraft before or on the 180th calendar day following their last jump must successfully complete BAR before conducting an airborne operation.

4. New Equipment Training (NET).

- a. NET can be given by any current, qualified JM who has shown mastery in the equipment presented to the student. NET training will include the following:
 - i. Capabilities orientation of any new equipment. JMs should attempt to make comparisons between the new equipment and the equipment it is replacing (Reference Appendix F (F.1) T-11 ATPS NET Capabilities Brief).
 - ii. A talk-through of how to conduct the five points of performance with the new equipment.
 - iii. Drag pad training (if available). If NET is for a new parachute system, the Jumper will demonstrate proper recovery from the drag.

5. Jumpmaster Refresher (JMR).

a. JMR can be given by any current and qualified JM and will consist of all training established in TC 3-21.220, Appendix C, *Jumpmaster Refresher Course*. Record keeping of the completion of JMR can be recorded on an MFR or on a JMR slip that must be turned into the Jump Log Custodian and recorded on the DA form 1307. Records must be maintained at the unit for a minimum of two years. The required events include:

- i. **NET.** Students must be trained on new equipment for certification. Training for all unit specific equipment and equipment not familiar to the student must be covered. This includes, but is not limited to: weapons cases, helmets, jumpable packs, and special items of equipment.
- ii. **Jumpmaster Personnel Inspection (JMPI).** Each student is talked through the JMPI sequence for AN/T or "Hollywood" as well as CE rigged Jumpers. Adequate time must be provided for conducting a JMPI practical exercise (PE) for both types of Jumpers. Each student will be evaluated on their ability to identify deficiencies while conducting the JMPI sequence correctly using proper nomenclature.
- iii. **Pre-jump training.** In a classroom environment, the following will be discussed: the five points of performance and methods of activating the reserve parachute, recovery of equipment, towed Jumper procedures, collisions and entanglements, emergency landings, and the importance of each.
- iv. **Drop Zone Control and Support Criteria.** This will include but is not limited to the discussion and familiarization of DZSO and ADZSO duties and the composition of the DZST for different airdrop scenarios.
- v. **SERJTE and mock door training.** Students will receive a SERJTE briefing as well as complete mock door training to include exiting the mock doors.
- vi. **Practical Work Inside the Aircraft (PWAC).** In a classroom environment, all students will receive instruction on the execution of JM duties throughout an airborne operation (PJ or AJ, and SAF). Upon completion, a PE will be conducted to evaluate all students in the roll of a PJ or AJ and SAF.

6. Jumpmaster Transition Training/NET (JM TT/NET).

- a. JM TT/NET training, specifically for new parachute systems, must be conducted by Cadre from the following organizations:
 - i. USAAAS.
 - ii. 1-507 PIR, United States Army Infantry School (USAIS)
 - iii. USASOC.
 - iv. USAF.
 - v. Project Manager, Soldier Protection and Individual Equipment (PM-SPIE).

3.3. Sustained Airborne Training (SAT), the Airborne Buddy System, and Jumpmaster Rehearsals

1. General information.

a. SAT is performance-oriented training. It is the responsibility of the Airborne Commander to ensure JMs and Jumpers are performing all key actions to standard.

2. Sustained Airborne Training (SAT).

a. During SAT, use the "*HIT IT*" exercise as often as needed to keep the Jumpers actively involved. Jumpmasters will refer to their unit SOPs for additional guidance. SAT should be conducted no earlier than 24 hours before Takeoff Time; however, if approved by an O-6, it can be conducted up to 48 hours before Takeoff Time. SAT should be conducted using the appropriate training aids and apparatuses (mockups, suspended harness, PLF platforms, etc.) The only exception is when facilities are not

available at the unit area or departure airfield due to austere or underdeveloped facilities. SAT must include the following phased training IAW TC 3-21.220, Appendix E, *Sustained Airborne Training*:

b. Mandatory Training.

- i. Actions in the aircraft. This includes but is not limited to: SERJTE and mock door training. Mock door training must include two exits as planned and one mass exit. It should also include individually graded exits for all Jumpers. The final mock door performance must be "as planned" for the airborne operation being conducted. Ensure to include red-light procedures into a repetition to ensure Jumpers are reoriented to those techniques.
- ii. **Pre-jump training.** Although pre-jump training should be tailored to fit the mission, emergency landings are always covered due to the many variables involved in emergency situations, such as Jumpers having to conduct an emergency bailout over unfamiliar terrain. Prior to pre-jump training, place the Jumpers into a formation that allows the JM team to easily control the Jumpers and make on the spot corrections.
- iii. **Parachute Landing Falls (PLF).** All personnel exiting the aircraft will conduct one satisfactory PLF in each of the four directions (front left, front right, rear left, rear right), to include the jumping JMs. SAF are suggested to be utilized to ensure proper performance is conducted. Ensure Jumpers are hitting all five points of contact, are placing their chins on their chest, maintaining their elbows close to the body, and dissipating their kinetic energy with an appropriate roll.
- c. **Optional Training.** Optional training may be sacrificed to ensure the ST is met; however, additional training should be factored into any airborne operation if time permits.
 - i. **Individually graded exits.** Jumpers should be given the abbreviated jump commands of "stand-up, hook-up" and then the command of "GO" based off their position in the chalk they are exiting (i.e., the number one Jumper is placed in the paratroop door and all other Jumpers walk to the paratroop door and conduct a proper exit). This is highly suggested for Jumpers with less than 10 jumps or have had greater than 180 days since their last jump.
 - ii. **Rigging exercise (RIGEX).** The RIGEX can be implemented at the unit area by the Commander or the JM team to verify Jumper proficiency in the proper rigging of individual and/or sensitive items of equipment. The JM team will give detailed instructions on how to properly rig all equipment for the specific airborne operation and test the Jumpers on their proficiency by giving the Jumpers 30 minutes to properly rig their equipment. Air items should be fully disassembled and fully elongated. Once the Jumper has completed the RIGEX within the allotted time frame, the JM team will inspect the items of equipment to ensure they are properly rigged. If not, Jumpers will be retrained until proficiency is met.
 - iii. Fit and wear class and the buddy system. Jumpers should understand the proper buddy rigging procedures and be familiarized the proper fitting of their parachute system and their combat equipment for the airborne operation. It is suggested that the JM giving this period of instruction (POI) has the most junior Jumper get rigged up by another member of the JM team. An in-depth talk through will be conducted to include initial inspection of the parachute system, proper sizing of the parachute system before donning, securing their weapon system and equipment in the MAWC, and conducting donning of all equipment (to include CE) via the buddy system.
 - iv. Suspended harness training (only if available). Demonstration of the actions of a Jumper from the point they exit the aircraft all the way through their slips and prepare to land. Explain the importance of conducting a one riser slip to avoid other Jumpers and hazards. Discuss the slips for prepare to land attitude in addition to discussing toggle control, turns, and braking for MC-6, collisions and entanglements, emergency landings, center panel strikes, and emergency procedures.
- d. **Airborne Buddy Policy.** It is the primary responsibility of the JM Teams to ensure that all Jumpers who lack proficiency, due to lack of experience or time from their last jump, are paired with an Airborne Buddy. Airborne buddies are experienced Jumpers in the unit with a minimum of five jumps with their organic unit (not including those conducted in the Basic Airborne Course (BAC)). This fosters the apprenticeship of airborne skills and develops future JMs for the unit without over burdening the JM

team during an airborne operation. An Airborne Buddy will be manifested immediately before or after the Junior Jumper and will be paired with their buddy throughout SAT and complete buddy rigging as a tandem. Airborne Buddies are selected based on their experience and performance and not on their specific unit of origin.

- e. **Jumpmaster Rehearsals.** JM teams must be highly proficient and thoroughly familiar with all of their duties and responsibilities when conducting airborne operations. JM rehearsals can be conducted any time between being notified and before conducting SAT. It is the MJM's responsibility, regardless of rank, to verify all JMs on their assigned duties (as delegated by the PJ) to include, but not limited to:
 - i. PWAC.
 - ii. Emergency procedures.
 - iii. Delivering POI.
 - iv. Ability to make corrections.
 - v. Familiarity of all standard rigging procedures for the airborne operation being conducted.

3.4. Collective Airborne Training Requirements

1. General Information.

- i. Collective Airborne Training Requirements are laid out in Army Regulation (AR) 350-1, Army Training and Leader Development. Commanders should take every opportunity to include tactical training as part of the airborne operation. The Airborne Commander must weigh training value against limited resources, Jumper progression, and tactical value against Jumper's load, and safety whenever possible.
- ii. All tactical jumps must be conducted with the Jumper's individually assigned weapon and sustainment for the follow-on mission rigged in their authorized jumpable pack. Combat light jumps, consisting of the Jumper's individual weapons and what is accepted by the Airborne Commander as minimal sustainment will be considered A/NT/CE.
- 2. Frequency. All Paratroopers assigned to an IBCT (A) will conduct a minimum of eight jumps per year in order to maintain combat proficiency. Paratroopers assigned to an IBCT (A) on parachute assault echelon will conduct one jump per month, for a total of 12 jumps per year, to include the DoD mandated four jumps per year specified in AR 350-1, para 4-11a{1} to meet the minimum pay requirements for hazardous duty. Commanders will determine exact jump frequency for their units based on AR and mission requirements, as well as available resources. Aiming for minimum requirements and not taking full advantage of available resources is considered not meeting standard. Additionally, 50 percent of all scheduled jumps will be at night and 75 percent of jumps will be with CE.
- 3. Every IBCT (A) sustaining or preparing to assume a response force for the outgoing IBCT (A) will conduct one-night, airborne mass tactical assault per quarter. This training should include 12 HE platforms and 16 CDS followed by a ground tactical exercise including the seizure of an assault objective. Refined guidance will come from the parent units training and readiness guidance.
- 4. All units identified as enablers to the response force and their Corps and Division Command Posts will conduct the same quarterly training with the supported IBCT (A). These units will also execute at least eight CE jumps from a high-performance aircraft per year and any additional training the owning BDE CDR deems necessary to value the supporting unit as being proficient.

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• Chapter 4. Planning and Coordinating Airborne Operations.

4.1. General Information

 Proper planning and coordination for an airborne operation plays a large part in the overall success of the mission. The planning phase begins upon receiving the mission and ends at the S-3 Air Brief. The execution phase beings when units "set the stage" to produce optimal conditions for delivering an airborne assault force to the DZ. Lack of planning and poor time management will significantly impact the airborne timeline by adding stress to the Jumper, frustrating cargo, and increasing risk. Value of the training, Paratrooper welfare, and upholding the supporting policies is the responsibility of all Airborne Leaders.

4.2. Classification of Airborne Operations

- 1. **General Information.** Airborne operations are classified into three main categories: Administrative, Non-Tactical (A/NT), Tactical (T), and Mass Tactical (MT). Classification of airborne operations are delineated by the following criteria:
 - a. **(A/NT).** This encompasses airborne operations that are non-tactical in nature and includes incentive jumps, Saturday Proficiency Jump Program (SPJP), progression jumps, PWAC, etc. Jumpers may be rigged in CE or jump Hollywood and there is no tactical move or a follow-on mission after accounting for all PAX and equipment once on the ground.
 - b. (T). An airborne operation is considered tactical under the following conditions:
 - i. Must include a tactical assembly.
 - ii. Must include a ground tactical exercise conducted after the assembly.
 - iii. Jumpers must exit with full CE. Full CE is defined as a tandem load consisting of the Jumper's individually assigned weapon or replica and a jumpable pack containing the minimum equipment necessary to complete the mission (as dictated by the Airborne Commander).
 - c. (MT). Defined in AR 600-8-22, *Military Awards*, paragraph 8-15, "mass tactical jumps which culminate in an airborne assault problem with either a unit equivalent to a BN size or larger; a separate company battery; or an organic staff of regimental size or larger. The Soldier must fill a position commensurate with his or her rank or grade during the problem." Examples of operations of this nature are as follows: Joint Forcible Entry Operations (JFE), Mobility Air Force Exercises (MAFEX), Emergency Deployment Readiness Exercises (EDRE), etc.

4.3. Planning Sequence

- 1. The planning sequence for an airborne operation, as with any military operation, is backward planned. This begins with the Commander's end goal for the ground tactical plan and ends with the marshalling plan for the personnel and equipment at the unit area. The acronym used for this sequence is GLAM (Ground tactical, Landing, Air movement, Marshalling).
 - a. Ground tactical plan. Determine the ground maneuver plan and the task organization.
 - b. **Landing plan.** Determine the sequence and delivery method at each DZ/LZ for all PAX and equipment to best support the ground tactical plan. Ensure selected DZ/LZ will accommodate the force being employed.
 - c. **Air movement plan.** Determine how to phase the force into the objective area in the sequence required by the landing plan. The abort plan must also be considered during this portion.

- d. **Marshalling plan.** Determine the staging, organization, and loading of all PAX and equipment from the unit area to loading the aircraft.
 - i. Alternate plans, to include alternate DZs, should be developed for each serial to compensate for last minute intelligence, adverse weather, missed delivery, or communications problems.
 - ii. Issue of S-3 Air letter. The S-3 Air letter is an official notice and approval for an airborne operation and is generated once the GLAM process is completed. Prior coordination between USAF and the Air Shop may come in the form of a Joint Coordination Checklist (JCC); however, a JCC is not a replacement for an Army issued Air Letter. Air letters list key personnel, timelines, coordinating information, special instructions, etc. When more than one unit is conducting the airborne operation, the owning unit who is supplying the Airborne Commander will be listed first. The Airborne Commander is responsible for coordinating with all other units listed on the air letter. Changes to the air letter must be requested well in advance.

All critical times and PAX must be confirmed upon receipt of the air letter. If changes are required, notify the Air Shop immediately.

4.4. Factors of the Marshalling Plan

- Aircraft layout. Coordinating with the USAF to ensure the aircraft are configured appropriately for the
 mission out-load is paramount to ensure full combat power is delivered to the DZ. Air planners must be
 familiar with the most current Air Force Manuals (AFMAN) for the aircraft being utilized for the mission and
 their available configurations for airdrop and airland operations. These manuals can be accessed at the
 USAF website, https://www.e-publishing.af.mil under the Publications and Forms tab, Air Force,
 Departmental, 11 Flying Operations. If the available configurations do not meet your mission requirements,
 pick the closest option. The USAF can later modify the configuration to meet specific needs, but time will be
 saved if a configuration that closely meets your mission needs is picked first then the air crew modifies them
 once at DAF. The following are the three most common AFMANs utilized:
 - a. C-130 Hercules AFMAN 11-2C-130H, Volume 3, Addenda A.
 - b. C-130J-30 Super Hercules AFMAN 11-2C-130J, Volume 3, Addenda A.
 - c. C-17 Globemaster III AFMAN 11-2C-17, Volume 3, Addenda A.
- 2. Maximum troop transport capabilities can be found in TC 3-21.220 and the above listed AFMANs for all airframes in the USAF inventory. Table 4.1 provides realistic planning considerations for frequently utilized aircrafts per Tactical Airdrop Paratroop (TAP) configurations. All figures are based on Jumpers rigged in T-11 ATPS with CE as it is the Jumper's load that ultimately dictates how many Jumpers will fit on the aircraft. Reference your unit SOP, Appendix J, *TAP Configurations*, and/or the appropriate Addenda A to identify other options.

Aircraft	TAP Configuration	Maximum Allowable Cabin Load (ACL)	Maximum Jumpers in T-11 ATPS with CE (includes Safeties)	Maximum Jumpers per Anchor Line	Airdrop Speed in Knots (kts)
C-130H Hercules	TAP 1	66	54	20	125-135 kts
C-130H Hercules	TAP 2	56	46	20	125-135 kts
C-130H Hercules	A* TAP 2	42	42	20	125-135 kts
C-130J-30 Super Hercules	TAP 1	92	76	31	125-135 kts

C-130J-30 Super Hercules	TAP 1 (MOD)	79	66	31	125-135 kts
C-130J-30 Super Hercules	TAP 2	82	72	31	125-135 kts
C-17 Globemaster III	N/A	102	102	Outboard: 27	127-133 kts
C-27J Spartan	N/A	28	28	13	125-135 kts
UH-60 Blackhawk	N/A	8 + Static JM	8	4 (per door)	65-75 kts
CH-47 Chinook	N/A	28	28	28	80-110 kts

Table 4.4a. – Seating Guidance For Commonly Utilized Airframes

A* annotates aircraft with armor installed

- Manifesting. All PAX loading onto military aircraft, regardless of type of duty or responsibility (Jumpers, Safeties, In-Flight Medics, Public Affairs Officers (PAO), observers, etc.), must be manifested on a DA form 1306, *Statement of Jump and Loading Manifest*. Requests for waivers will be considered for non-U.S. Military VIPs and foreign dignitaries.
- 4. **Cross loading.** Cross loading is the most important technique used to deliver the right people, with the right equipment, from the right unit to the right sector of the DZ in order to maintain tactical integrity while ensuring minimal impact on the mission if an aircraft is lost or fails to deliver its load.
- 5. **Personnel.** Cross loading PAX has three major advantages while conducting an airborne assault:
 - a. Troops from the same unit land in the same area on the DZ, creating opportunity for faster assembly.
 - b. Equipment/vehicle operators and weapons systems crews land in the same vicinity of the DZ as their HE, facilitating quick derigging and employment.
 - c. If an aircraft is lost or must abort the mission, some key leaders and vital equipment will still be delivered to the DZ.

6. Equipment and weapon systems.

- a. Separate all crew served weapons on different aircraft with their assigned team. A single weapon system should have the complete crew for that weapon, with all required equipment, on the same aircraft. For example, a 60-millimeter (mm) mortar weapon system crew should jump from the same aircraft that the system is loaded on, but the rest of the mortar section should be placed on other aircraft as to not lose that capability if that aircraft is lost or unable to deliver the load to the DZ.
- b. To the maximum extent possible, separate radios, mortars, anti-tank weapons, ammunition bundles, and other vital equipment and supplies. No like items or CE from the same platoon should ever be on the same aircraft.
- c. All Leaders should pack or wear their own radios on their person to facilitate rapid command and control (C2) on the DZ. A radio operator should jump from the same aircraft as the Leader they support either immediately before or after.
- d. Each unit conducting a tactical jump should jump a primary and alternate assembly aid. The primary and alternate assembly aids will be manifested on separate aircraft. Both primary and alternate assembly aids will be jumped on the first pass.
- e. The AT-4 Jump Pack (AT4JP) and Dragon Missile Jump Packs (DMJP) can be jumped from any position in the stick to support cross loading and assembly plans. However, you must not put them in the number one position if door bundles are being pushed due to the responsibilities of the number one Jumper for assisting in exiting of door bundles.

7. Heavy equipment.

- a. Coordination must be made with the USAF, so HE is loaded in the reverse order planned for release, based on approved load plans. It is the USA's prerogative on loading sequence based on the need for said equipment on the DZ to support the mission on the ground.
- b. Nothing loaded on an aircraft should ever include the same type of critical equipment from the same unit, or like equipment from different units. For example, never load commo equipment from both Alpha and Bravo Company on the same aircraft or load all of Alpha's commo on one aircraft.

8. Developing the cross load.

- a. Developing a proper cross load plan ensures that Jumpers and equipment land on the proper section of the DZ. A technique to accomplish this involves backward planning using a DZ mosaic when developing the heavy equipment point of impact (HEPI), personnel point of impact (PPI), and troop manifests. Utilize the following example for using a DZ mosaic.
- b. On the mosaic, mark the PPI for PAX and the HEPI by bumper number. For planning purposes, HE will land approximately 400 yards apart when dropped from high performance aircraft.
- c. Line off the mosaic in 75-yard intervals from the PPI. This represents the normal one second interval between Jumpers. Make the lines perpendicular to the direction of flight so the name of the Jumper associated with a particular piece of equipment may be marked.
- d. Place the name of the Jumper who must get to their equipment on the mosaic on one of the lines closest to their equipment. This will correlate with their position in the stick so they can be manifested in the proper position at the unit area.
- e. The Airborne Commander must plan cross loading according to the DZ, the assembly plan, and the ground tactical plan. Once the plan is developed, including assembly areas (AA), the Airborne Commander notifies each unit involved of how many and which seats they will have on each aircraft.
- f. Examples of cross loading plans should resemble the following;

Unit	Manifest Number	Paratroop Door
A Company (1 st Platoon)	One thru Nine	Right
A Company (1 st Platoon)	One thru Nine	Left
B Company (2 nd Platoon)	10 thru 17	Right
B Company (2 nd Platoon)	10 thru 17	Left
C Company (1 st Platoon)	18 thru 26	Right
C Company (1 st Platoon)	18 thru 26	Left

TABLE 4.4b -	 Example Cros 	s Loading Plan
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Left Paratroop Door	Right Paratroop Door
#1 – Squad Leader	#1 – Fire Team Leader
#2 – Forward Observer	#2 – Platoon Leader
#3 – Rifleman	#3 – Radio Transmission Operator
#4 – Grenadier	#4 – Grenadier
#5 – Fire Team Leader	#5 – Automatic Rifleman
#6 – Rifleman	#6 – Squad Leader
#7 – Javelin Gunner	#7 – M240 Machine Gun Gunner
#8 – Assistant Javelin Gunner	#8 – M240 Machine Gun Assistant Gunner
#9 – Automatic Rifleman	#9 – Grenadier

Table 4.4c – Example Company Level Cross Loading Plan



INSIDE VIEW OF A PROPERLY CROSS LOADED AIRCRAFT

- 9. **Parachute Issue Techniques.** Parachutes may be issued in three primary locations.
 - a. **PAX terminal issue.** Conducted inside the PAX terminal and provides protection for PAX and equipment from all weather conditions.
 - b. Outside issue. Used when space in the PAX terminal is limited, the airborne operation is being conducted of an FLS or austere environment, or with complex parking plans of aircraft on the flight line. Outside issue can only be conducted when weather is fair. Coordination with the Air Shop and the USAF C2 is required.
 - c. **Plane side issue.** Requires detailed coordination through the Air Shop and the USAF well in advance of the operation. All vehicles must be clear of the airfield NLT 15 minutes before engine start time and a very thorough police call must be conducted for any foreign objects and debris (FOD).
 - d. **Ramp-side Attachment of Combat Equipment (RACE).** The Airborne Commander may decide to conduct the JMPI of the entire chalk without equipment and attach CE in the vicinity of or onboard the aircraft. Prior to considering this course of action the individual and unit's proficiency must be assessed and will be addressed in the DRAW. The Airborne Commander is responsible for the following:
 - i. Coordination is made with the Air Shop. For mass tactical operations with a planned RACE, the Air Shop must be notified NLT the operation's final planning meeting.
 - ii. Use of RACE and changes to the timeline should be discussed at the Joint Mission Brief (JMB). In the absence of a JMB, the RACE plan will be discussed at the WX.
 - iii. During low light conditions, JMs will use headlamps. In addition, the unit should resource adequate lighting sources (flood lights, vehicle headlights, etc.) for use at ramp-side to improve visibility.
 - iv. The only authorized locations for attachment of CE when utilizing RACE is the vicinity of the tail of the aircraft or onboard the aircraft.
 - v. Technical Inspection (TI) and Hang / Late Hang and JMPI of CE. The Airborne Commander may decide to have the Jumpers rig Hollywood and attach CE closer to LT. Prior to considering this course of action the individual and unit's proficiency must be assessed and will be addressed in the DRAW. Coordination must be made with the Air Force and the DAF if late hang and inspection of equipment is going to be conducted anywhere other than inside the PAX terminal to ensure conditions are set and any possible changes to the timeline are coordinated. The Airborne Commander is responsible for the following:

- vi. This decision is coordinated ahead of time and also discussed at the WX decision.
- vii. All Jumpers arrive at DAF with CE already properly rigged IAW standard rigging procedures as described in Chapter 12 of the CAASOP and TC 3-21.220.

4.5. S-3 Air Operations Checklist for Issue

- During the planning and execution of an airborne operation, the S-3 Air has a great deal of responsibility to
 ensure the airborne force is trained and equipped to complete their mission on the DZ. This requires
 excellent communication skills and an extensive understanding of the events during the airborne timeline.
 The S-3 Air Officer/NCO will conduct all coordination and will back brief the Airborne Commander when
 required. The S-3 Air will maintain communications with the supply representative/Parachute NCO and
 Transportation NCO throughout the entire process to prevent mission failure. To enable mission success,
 the S-3 Air should use the following checklist when preparing for and conducting the airborne operation:
 - a. Verify the following items on the air letter:
 - i. All dates and times.
 - ii. Correct DZ.
 - iii. Type and number of aircraft.
 - iv. Type and number of parachutes/platforms.
 - v. Location of parachute issue.
 - vi. Type of loading.
 - vii. U.S. Army units listed (identify which unit owns the Airborne Commander for multi-unit proficiency lines).
 - b. Identify the Airborne Commander early in the planning process and assist them in designating the following:
 - i. An overall unit coordinator.
 - ii. All Sortie Commanders, PJs, AJs, and Safeties for each aircraft.
 - iii. DACO and ADACO.
 - iv. DZSO/DZSTL and all-party members.
 - c. Time and location of the S-3 Air Brief to:
 - i. All members of the Jumpmaster team.
 - ii. DACO, ADACO, DZSO/DZSTL and all members of the DZST.
 - iii. Parachute NCOIC.
 - iv. Transportation NCOIC.
 - v. Airborne Commander (and Sortie Commanders if assigned)
 - vi. Senior Medic

- vii. Unit Command Teams (if a tactical mission)
- d. Determine exactly what air items are required. The following items should be considered:
 - i. Number and type of parachutes to be used.
 - ii. T-11 Reserve Parachute Tuck Tab Inserts.
 - iii. Stinger Missile Jump Pack (SMJP) or other specialized jump packs for special items of equipment.
 - iv. Modular Airborne Weapons Case (MAWC), consider large MAWC based on tactical loads being delivered to the DZ.
 - v. Waistband Adjuster Panel Extension Straps (WAPES)
 - vi. Unit issued air items to include: harness single point release (HSPR), hook pile tape lowering line (HPTLL), approved chinstrap assemblies, and helmet suspension pads.
- vii. Expendables to include: shoe tags, 1/4" cotton webbing, tape, retainer bands, paperboard honeycomb (PBHC), and cellulose wadding.
- viii. Plastic garbage bags to protect the parachute systems from getting wet.
- ix. Universal parachutist recovery bags (UPRB) to include enough for Safeties to recover deployment bags (30 deployment bags per UPRB).
- x. CAADS platforms, A7A cargo straps, heavy duty D-rings for all door bundles.
- e. Identify the amount of air items needed to be drawn from the PIF. Ensure to indicate the unit, line number, number and type of aircraft, dates for pickup, time for parachute issue, donning time, LT, P-hour, DZ, and POC with phone number on the request form to ensure Rigger support is coordinated.
 - i. Amount and type of main parachutes required (plus 5% overage to cover deficiencies).
 - ii. Amount and type of reserve parachutes required (plus 5% overage to cover deficiencies).
 - iii. Additional UPRB for deployment bag recovery (30 deployment bags per UPRB).
 - iv. Amount of Advanced Emergency Bailout Parachutes (AEBP). Consider additional parachutes in the event one or more are not serviceable. All PAX that are not secured inside the aircraft in a seat and seat belt MUST either be hooked up to an anchor line cable, wear an AEBP, or an aircraft safety harness set (monkey harness) once the Paratroop door or cargo ramp is open.
 - v. Amount and type of weapon cases required for the equipment being jumped. Consider the size of the weapon systems being employed and if special items of equipment, such as SMJP, will also be jumped.
 - vi. Amount and type of cargo parachutes required.
- vii. Amount and type of HE platforms required. Additionally, ensure that the push/pull detail is on standby until all platforms have been exited. If a NO DROP is given, push/pull detail is required to offload HE from the aircraft.
- viii. Amount and type of A-series containers and CDS required.

- f. Create a plan for air item draw, issue, and recovery based on the Airborne Commander's intent. Ensure that the Parachute NCOIC is well briefed and understands the entire plan along with a PACE plan for both vehicles and communication. Vehicles must be dispatched and fully mission capable (FMC) prior to the airborne operation. The Parachute NCOIC must have a detailed timeline provided and have a general understanding of airborne operations. The Parachute NCOIC should be able to back brief the following: communication and transportation plans, method of accounting for all air items, reporting procedures, marking of deficient air items for turn in, parachute turn-in, and shake times and locations. Factor in the following when developing the plan:
 - i. Multiple draw times.
 - ii. Times to draw and rig containers and special items of equipment.
 - iii. Multiple parachute issue and recovery positions.
 - iv. Method of parachute issue (PAX terminal, RACE, in-flight rig, austere, etc.).
 - v. Turn in points, especially if a tactical follow-on mission in occurring.
 - vi. Method of recovery (tactical or non-tactical).
- vii. Monitor forecasted weather conditions to project the possibility that parachute systems may get wet. If tower space is not available to hang wet parachutes, units may refrigerate parachutes until space becomes available. Coordinate closely with the PIF to ensure parachute systems are handled appropriately. NEVER freeze parachute systems as it will damage the components. If the using unit anticipates a large number of wet parachutes or will not be able to get parachutes into a drying tower within 24 hours of becoming wet, the parachute systems must be refrigerated to prevent mold growth. Refrigeration temperature must be maintained between 33-39 degrees Fahrenheit within 24 hours of becoming wet, with adequate circulation for all wet materials, to cool to the recommended temperature. Refrigeration for up to seven days is permitted before hanging and drying.

Selecting a responsible and competent Parachute NCOIC is critical in order to maintain accountability of air items and allows Paratroopers to clear the DZ in a timely manner.

- g. Coordinate with the Air Movement Officer (AMO) and/or Primary Load Planner for the preparation and airdrop or air movement of HE and CDS. Arrange for a recovery detail based on the amount and size of platforms. Parachutes are returned to the parachute shake-out tower and platforms and rigging materials will be turned in at the HDRS.
- h. Create a transportation plan that supports the Airborne Commander's intent. The Transportation NCOIC should be linked closely with the Parachute NCOIC so that support details are synched and can communicate with the DZSO/DZSTL. Factor in the following when developing the plan:
 - i. Adequate type and sufficient number of vehicles to support the recovery plan for Jumpers, HE platforms, CDS, etc. Vehicles must be configured appropriately to their purpose. A HMMWV will not be able to recover a 20ft platform.
 - ii. HE/CDS sizes and amount. Ensure recovery equipment is available and at the DZ ahead of time will make for quicker recovery. Wreckers can recover both platforms and vehicles if they break down or get stuck.
 - iii. Paratroopers to and from DAF and the DZ. Factor in the possibility of the airborne operation getting canceled and having to return Jumpers back to their units.

- iv. Air items to and from their required locations such as DAF, planeside issue, FLS, DZ, etc. Ensure air items are protected from the elements if conducting airborne operations out of austere environments.
- v. Confirm all transportation through the appropriate agencies (Installation Transportation Office (ITO), Transportation Motor Pool (TMP), Brigade Support Battalion (BSB), Sustainment Brigade (SUS BDE), etc. Ensure the numbers and types of vehicles being requested is being tracked by the supporting agency and they are able to support. Supply the supporting unit with an air letter and update them as soon as changes are made to the timeline.
- vi. Ensure you brief all drivers and chalk leaders on times and locations of loading, off-loading, primary and alternate routes, shuttle plan, and parachute shake out time and location. Medical evacuation routes can be supplied by the Senior Medic or selected by the Airborne Commander or a delegated representative.
- vii. Establish continuous communication with all key POCs at the PIF, GLO (if employed), HDRS, Aerial Port, DACO, DZSO/DZSTL, unit coordinators, Airborne Commander, DRAW Authority, Transportation NCOIC, Senior Medic, Parachute NCOIC, etc.
- viii. Coordinate receipt, issue, accountability, and loading of all supplies. Ensure to pay close attention to CL I and CL V items.
- ix. Develop the unit marshalling plan and brief all parties involved.
- i. Coordinate with the Parachute NCOIC and Transportation NCOIC the times and locations of pickup, turn in, DZ, turn in points on the DZ, PACE plan, weather considerations (protecting air items from getting wet), parachute shake detail hit times, etc.
- j. Appoint a unit representative to coordinate with the Air Shop and monitor out loading. Ensure any RACE or plane side issue has been understood between all parties.
- k. Coordinate and brief DACO on PACE plan, accurate count of Jumpers per pass vs exited, plan for alibi Jumpers/air lands, jump refusals, recovery of all USA equipment from USAF aircraft, policing and securing DAF, frequency of situation reports (SITREP), aircraft parking plan, marshalling at DAF, etc.
- I. Verify with the Air Shop for any updated information or changes and update all Key Leaders (Airborne Commander, PJs, DACO, DZSO/DZSTL, Transportation and Parachute NCOICs, Medics, etc) as they occur.

4.6. Example of the Airborne Timeline

 Listed below is an example of an airborne timeline listing each critical event for an operation on a C-130 series aircraft and a C-17 Globemaster III. The times listed are factored with all Jumpers rigged in full CE. Commanders must base their timelines according to multiple variables specific to their operation but minimizing the elongation or "padding" of the timeline should be a top priority of any Airborne Leader.

Padding airborne timelines degrades and fatigues Jumpers. Conducting an airborne assault is a physically demanding job. Don't let your Jumpers sit in the parachute harness longer than they need to.

EVENT	C-17	C-130	PLANNING FACTORS			
Station Time (ST)	Jumpers seated in aircraft					
Load Time (LT)	15 min	20-30 min	Ensure aircraft configured correctly before seating Jumpers			
JMPI	50-80 min	50-80 min	Jumper to JM ratio			
Fit and Wear Class/Buddy Rig	15-30 min	15-30 min	Jumper experience, Jumper load, special items of equipment			
Parachute Issue	15-25 min	15-25 min	Number of Jumpers, issue points, prepositioning parachutes			
Mock Door Training	30-45 min	30-45 min	Number of mock ups, location of mock ups			
Movement to DAF	VARIES	VARIES	CE vs Hollywood Jumpers, total number of PAX, DAF availability vs austere environment (field landing strip (FLS))			
Pre-iump/PLFs	30-40 min	30-40 min	Number of PLF pits			
MACO Brief	10 min	10 min	Familiarity of Jumpers to DZ, tactical vs administrative jump, active FLS			
Manifest Call	15-25 min	15-25 min	Number of Jumpers, tactical cross load			
JM Team Rehearsal	20-30 min	20-30 min	Door bundles, experience of JM team, down door procedures			
Minimum Time	3 hr 20 min	3 hr 50 min				
Maximum Time	5 hr	5 hr 15 min	Chow/Hydration			

Table 4.6a – Airborne Timeline

4.7 Coordination and Synchronization Briefings

- Airborne operations are heavily dependent on outside support elements. Well thought out and organized briefings ensure that all parties work cohesively and ensures successful operations. When holding briefings, ensure a roll call is conducted and all required parties are present before beginning the brief. Sending "stand ins" or alternate personnel to briefings increases the possibility of miscommunication and should be discouraged by both the Airborne Commander and the S-3 Air Shops at all levels.
 - a. **Out Load Coordination Briefing.** Out Load Coordination Briefings will be conducted for large tactical operations (BN sized or larger) as a final coordination opportunity for all elements. This brief usually begins approximately two hours prior to the Joint Mission Brief (JMB) and approximately five hours before take-off and is usually facilitated by the Air Shop. Special attention should be given to chalk numbers and formation type, key PAX, critical HE, hot loads, air lands plans, bump plan, and timelines. The following contents should be covered.
 - i. Parking plan.

- ii. Fuel load.
- iii. Maintenance status of aircraft.
- iv. Load plans and seating arrangements of all aircraft.
- v. Bump plan.
- vi. Abort criteria and alibi plan.
- vii. Load time (LT).
- viii. U.S. Army station time (ST).
- ix. Planned take-off (TO) time and latest available TO.
- x. Parachute hour/"time on target" (P-Hour).
- xi. DZ.

b. Participants.

- i. Air Shop representatives.
- ii. Airborne Commander's Representative (BN Executive Officer (XO)), S-3 Air.
- iii. USAF Planners.
- iv. USAF Command and Control Node (C2).
- v. USAF Drop Zone Controllers (DZC).
- vi. Ariel Port representative.
- vii. Crash/Fire/Rescue representative.
- viii. Sustainment representative.
- 2. Joint Mission Brief (JMB). The JMB is a coordination briefing between the USA's Airborne Commander and the USAF's Airlift Commander which allows for all parties in attendance to review the entire air movement plan and answer any last-minute questions regarding the operation. The JMB is NOT a decision brief and does not replace other coordination briefings between the USA and USAF, such as the JM/Aircrew brief. JMBs can be conducted as late as three hours before LT, however large-scale operations usually occur the day prior.

a. JMBs are routinely conducted under the following conditions:

- i. Large tactical operations (BN sized or larger).
- ii. Joint Forcible Entry (JFE) Operations.
- iii. Emergency Deployment/Readiness Exercise (EDRE).
- iv. Joint Readiness Training Exercises (JRTX).
- v. Off-post training exercises.

- vi. Real world contingency operations.
- vii. When more than one Air Wing is supporting the operation.
- viii. Small formations transporting VIPs.

b. Participants.

- i. USAF's lead Airlift Mission Commander will conduct the brief.
- ii. Airborne Commander and designated Staff representatives.
- iii. Mission Commander, Formation Leaders, and Crew Members as needed by the AMC.
- iv. DZC.
- v. USAF Staff Weather Officer (SWO).
- vi. USAF Intelligence Officer.
- vii. Air Liaison Officer (ALO), Air Mobility Liaison Officer (AMLO) or Tactical Air Control Party (TACP) as required.
- viii. Air Shop representative.
- ix. Recommend a General Officer (GO) or their representative be present for large scale mass tactical operations and joint/combined operations.

c. Considerations.

- i. Conduct JMBs at least 3 hours prior to LT and plan for a 30-minute duration.
- ii. Coordination for the JMB must be made through the Air Shop, such as location and time for the briefing at the coordination briefing prior to the airborne operation. Although the USAF is responsible for conducting the JMB, it is the USA's responsibility to coordinate the specific requirements with the USAF.
- iii. S-3 Air Shop representatives should arrive at least 30 minutes prior to the JMB and be able to provide detailed information on the USA's requirements for the airborne operation.
- iv. For JFE and off post missions it is best to coordinate the JMB NLT 2 days prior to the operation. Normally, USAF crews utilize the day prior as a planning day to finalize all mission details. The crew is then placed on 12 hours crew rest prior to their notification and alerted approximately three hours and 15 minutes prior to LT. There is a very limited amount of time available for coordination the day of the mission. Ensure all information to the Air Wing is sent through the Air Shop prior to positioning day.

Do not wait until the JMB to coordinate abort criteria, door bundle procedure, bump plan, etc. Know what the Airborne Commander and the unit requires before the JMB and don't ask for anything unreasonable.

- d. Sequence of events.
 - i. Introduction of all key PAX.

- ii. General weather conditions and forecast that impact the entirety of the mission to include general trends, weather along proposed routes, DZ/LZ/FLS conditions, winds at drop time/altitude, ceilings on DZ (especially for pre-assault fires, Close Air Support (CAS), etc., and weather upon returning to DAF.
- iii. Intelligence report of enemy forces, locations, activities and capabilities that can influence the aircraft formations and the safe execution of the airborne operation. This intelligence portion should be coordinated jointly between the owning unit S-2 and USAF Intelligence Officers.

iv. The Airlift Mission Commander will brief the following:

- a. General overview of the air routes from DAF to the arrival to the DZ (flight time, race tracks, distances, amount of green light, etc.) being utilized. Key terrain features, force rendezvous, Air Control Points (ACP), and significant changes of altitude, direction and airspeed are also briefed during this period of the JMB.
- b. Formation types enroute and at arrival at the DZ as well as type of flight rules to be utilized (instrument flight rules (IFR) vs visual flight rules (VFR)). Overall formations with positions of all loads/chalks will be graphically presented. Explanation of the concept/scheme of maneuver for all aircraft operating as port of the air package will be covered as well, such as: Civil Air Patrol (CAP) escorts, CAS, Attack Transport aircraft (i.e., AC-130s), airborne C2 platforms, etc.
- c. Enroute communications infrastructure and plan.
- d. Utilization of Enroute Mission Command Capability (EMC2) and which aircraft will have EMC2 installed.
- e. Drop altitude.
- f. Drop air speed.
- g. DZ. A graphic will be utilized to confirm the name, length, width, seconds of green light, direction of flight/drop heading, type of exit to be utilized, location of Personnel Point of Impact (PPI), Containerized Delivery System Point of Impact (CDSPI), Heavy Equipment Point of Impact (HEPI), number of passes and confirm time warnings to be delivered to the JM team.
- h. Show and explain the visual reference points for each paratroop door.

Jumpmasters must be familiar with their visual references to determine their one minute and 30 second time warnings. Jumpmasters should not depend on the USAF to give you your reference points.

- i. Refueling operations. If planned or required before, during or after the operation ensure that the duration of refueling operations is stated and the location of the divert base.
- j. Abort criteria.
- k. Instrument Meteorological Conditions (IMC). State if aircraft are capable of conducting IMC operations and explain the minimum DZ weather conditions required to complete the mission under IMC. A minimum ceiling of 500 feet and a visibility of half of a mile for PAX and HE is required for training.

I. USAF Summary Flowsheet.

Unit	No./Type of A/C	Type Msn	Tail/Park	LT	ST	то	тот	A/C CDR	Call Sign	Comms	Rmks

Table 4.7a – USAF Summary Flowsheet

- 1. Number/Type of aircraft should be numbered by chalk order.
- 2. Parking spots should be listed alpha numerically.
- 3. Verify all critical times (LT, ST, TO, TOT).
- 4. Comms column should indicate if A/C are EMC2 equipped.
- 5. Remarks column should list number of A-series containers, CAADS, CDS, HE, and PAX by number and type.
- v. **Drop Zone Controller (DZC).** DZCs will brief all DZ markings, location of all release points (overt/covert), and navigation aids on a graphic presentation. Brief communication PACE plan and DZ safety plan, especially for active FLS operations.
- vi. **Air Liaison Officer (ALO),** Air Mobility Liaison Officer (AMLO) or Tactical Air Control Party (TACP). Brief integration of enroute escort, CAS, and pre-assault fires by type and number of A/C and sorties.

vii. Airborne Commander.

- a. Brief ground tactical plan, ensuring that the USAF has a firm understanding of the Commander's intent. The Airborne Commander will conduct the brief with a graphical aid on the location of assembly areas (AA), HE placement, scatter plan, objectives on the DZ/area of operation (AO), etc.
- b. Recommend Commander's Critical Information Requirements (CCIR) which will ensure the aircrew passes along pertinent information to the Airborne Commander, especially in flight.
- c. Bump plan. Must be previously coordinated through the Air Shop. State your unit's bump plan by priority and sequence with the time required to execute the plan, number of PAX/HE to be bumped, etc. Identify key PAX down to the Task Force level and ensure the bump plan accommodates communication requirements.
- viii. **Air Shop.** The Air Shop is not required to brief, however, the Air shop must be available to answer questions and help de-conflict issues between tactical mission requirements and USAF requirements.

e. Coordinating Instructions.

- i. USA units conducting deployment operations utilize an execution checklist. Explain procedures and critical calls concerning the airborne assault through the Joint Airborne Communications Center/Command Post (JACC/CP).
- ii. Special instructions concerning in-flight rigging, emergencies, towed Jumpers, etc.
- iii. SOP for counting Jumpers left onboard. USA JMs/Safeties will account for PAX and relay the information to the USAF Loadmasters and/or EMC2 Operator.

- iv. Explain the procedure for exiting door bundles and if they will be released on green light or on the command of the PJ if a delay in exiting has been planned and briefed.
- v. Verify earliest time the A/C will be available for JM inspection. JMs MUST conduct an Army inspection of the A/C to ensure seat configurations are correct and that all equipment is in safe, working order.
- vi. Army Airspace Command and Control (A2C2) coordination. Review positive and/or procedural airspace control measures that will be in effect during the airborne assault. Consider rotary wing aircraft, Special Electronic Mission Aircraft (SEMA), Unmanned Ariel Vehicles (UAV), and the like that may be operating in the AO. Ensure there are no airspace conflicts.
- vii. Questions. Ensure all questions are covered as they come up during the JMB and all participants have a firm understanding of the correct answers.

Do not assume that the A/C is configured correctly or that everything is in working order. Have the due diligence to ensure that Jumpers don't get scratched because you are missing the required seats or you lose a paratroop door.

f. Weather Decision (WX). The WX is a Joint decision point between the Airborne Commander and the Airlift Mission Commander to determine is the mission will continue forward or must be cancelled due to weather, safety concerns, or maintenance issues. For proficiency lines of less than four A/C, the Airborne Commander does not need to be present if they send a competent, designated representative. The Airborne Commander has the authority to cancel the mission or scratch certain lifts but must keep in close contact with the Air Shop to see if mitigating factors can be reduced. The decision to cancel or modify an airborne operation should we weighed heavily as A/C assets may be limited at times. At times, the DZSO will remotely sit in on the WX if they are required to be on the DZ to get ceilings and weather conditions on the DZ for the Airborne Commander's decision.

4.8. Factors of the Air Movement Plan

- 1. There are many additional factors Air Planners must take in consideration when planning a successful airborne operation. A simple and easy to execute a plan is most effective.
- 2. Enroute communications load plans and bump plans.
- 3. Enroute Mission Communication (EMC) systems and operators require additional seats on-board the A/C (see figures 4.8a, 4.8b, and 4.8c). The personnel that operate this equipment should be considered Key PAX and factor that priority on the bump plan for the operation.
- Key Leader Enroute Node (KEN). KEN provides airborne units with broadband reach-back data capability; intra-aircraft data and voice communications with subordinate units, Secure Video Teleconferencing (SVoIP), A/C to A/C and A/C to ground communications between Task Force Commanders and Combatant Commanders.
- 5. Dependent Airborne Node (DAN). DAN enables subordinate Commanders that are flying in formation (connected to their Key Leaders via KEN) to receive critical situational awareness updates through the intra-aircraft data and voice capability. Through the DAN, Commanders can utilize service such as chat and radio voice in order to maintain the lines of communications with their leaders and peers in the same flying formation.
 - a. Each KEN A/C can support up to three DAN A/C connected.

6. When designing your load plan, ensure EMC supports the physical location of the operators of the systems installed.

System	Required Operators	Seats Lost	Install Time
KEN	Three Operators	Four seats	90 minutes
KEN with screens (up to four screens can be installed)	Three Operators	Four seats plus two seats per screen installed. *Maximum seats lost is 12 (four to Operators, eight to four screens)	150 minutes
DAN	Two Operators	Two seats	60 minutes









Figure 4.8c – DAN Seating Diagram

- 7. **Dynamic Re-tasking Capability (DRC).** DRC is an USAF system that allows for C-17 Globemaster III and C-130J-30 Super Hercules A/C to have threat awareness, weather information and text messaging capabilities within a formation. When installed, the DRC "B-Kit" box takes up to four seats on the left outboard side in the forward portion of the A/C. USAF utilization of DRC must be identified as the load and scatter plans are being developed or Jumpers may be scratched at LT.
- 8. **In-flight rigging factors.** In-flight rigging is an excellent way to reduce Jumper fatigue on long flights, especially when conducting JFE and off post airborne operations. Ensure that in-flight rigging is requested well in advance and take the following into consideration while conducting air planning:
 - a. Coordinate through the Air Shop with the USAF to adjust flight crew sleep cycles that will not interfere with in-flight refueling or other USAF operations that require Jumpers to be secured in troop seats.
 - b. Proper nutrition, hydration and rest prior to the in-flight rigging and execution of the airborne operation is essential to the combat effectiveness of the Jumper on the ground, especially for strategic lift operations (flights lasting over six hours long).
 - c. Riggers are required on the aircraft when conducting an in-flight rig unless prior approval has been granted.
 - d. Changes in environment from DAF to the target DZ such as: altitude, temperature changes, humidity, etc.
 - e. Consider ordering comfort pallets which provide additional food heaters and latrines. Comfort pallets must be ordered well in advance.
 - f. In-flight rigging reduces the available seats for Jumpers to allow proper room for donning of the parachute systems and JMPI. See figures 4.8d, 4.8e, and 4.9f for examples of common seating plans for in-flight rigging. For additional possibilities for your specific mission set, go to <u>https://www.e-publishing.af.mil/Product-Index/#/?view=pubs&orgID=10141&catID=1&series=4&modID=449&tabID =131</u> for the specific A/C being utilized.
 - g. There are a variety of options for preparing and loading parachutes and each is dependent on the type of A/C and the number of PAX conducting in-flight rigging. The C-130 series A/C have the most restrictions due to egress and offset requirements. Proper preparation will prevent delays in the airborne timeline. Refer to Chapter 9, In-Flight Rigging for proper dimensions of palletized parachutes.











Figure 4.8f – Seating for In-flight Rigging, C-17

Ensure load planning is done methodically to prevent issues such as needing to repack parachute pallets, which can be time consuming, cause accidental activations, and lead to deficiencies in the parachute systems.

9. Aircraft formations, delivery sequence factors and cargo parachutes. The delivery sequence, time and space between equipment and PAX serials should be scheduled to provide the absolute minimum time and distance between each separate A/C and each serial. The goal for any tactical airborne operation is to deliver and assemble maximum combat power on the DZ as rapidly as possible while avoiding exposure to the A/C over contested air space.

a. C-130 Series A/C.

- i. An Airborne Force may be delivered to the DZ with HE first followed by PAX with a 30 second to one minute break in-between release. In sequence, the HE and PAX A/C fly in the same serial in trail formation.
- ii. A/C separation is 2000 feet (7 seconds) during Visual Metrological Conditions (VMC). Lateral dispersion between A/C is approximately 130 feet to keep trailing A/C out of the turbulence caused by forward A/C.
- iii. If PAX A/C follow HE A/C with less than one minute separation, they must fly at the same altitude. The minimum drop altitude for the Maneuverable Canopy (MC)-6 Personnel Parachute System (PPS) will be 1,500 feet AGL under these conditions. Approval to modify this requirement to maintain unit proficiency for contingency operations must be coordinated through the Air Shop and approved at the appropriate level.

b. C-17 Globemaster III.

- i. Delivery sequences involving C-17s require special considerations. Multi-ship formations of C-17s will be flown in an echelon forward to other A/C with a minimum of 32,000 feet (two minutes and 30 seconds to five minutes) between the lead A/C of each echelon to decrease separation time while minimizing the effect of wake vortices. C-17s will usually be the lead aircraft of any airborne operation formation.
- ii. When flying in formations, C-17s must utilize Station Keeping Equipment (SKE) to perform airborne operations. Use the following minimum DZ widths when planning operations of this type:
 - a. Centerline PPI minimum width is 1,240 yards for two ship elements and 1,800 yards for three ship elements.
 - b. Offset PPI minimum width is 1,050 yards for two ship elements and 1,300 yards for three ship elements.
- iii. The Airborne Commander and the Ground Tactical Commander must consider the effects that the greater time delay, separation of forces, and dispersion of Jumpers on the DZ has on the ground tactical plan.
- iv. Cargo parachutes. Ensure when planning for HE, CDS, door bundles, or CAADS that the limitations of the parachute systems are considered. If equipment is not packed and rigged IAW FM 4-48.02, Airdrop of Supplies and Equipment Riggins of Airdrop Platforms; Airdrop Derigging and Recovery Procedures; Reference Data for Airdrop Platform Loads, FM 4-48.03, Airdrop of Supplies and Equipment: Rigging Containers, and associated AFIs for the A/C being utilized.

Type of Parachute	Minimum Altitude Feet AGL	Minimum Weight (lbs)	Maximum Weight (lbs)	References
CARGO PARACHUTES				
68-inch x 1	100 feet AGL	30 lbs	50 lbs	TM 4-48.03
68-inch x 3	100 feet AGL	51 lbs	200 lbs	
T-10 Cargo	300 feet AGL	90 lbs	500 lbs	
G-11B x 1	700 feet AGL	2,270 lbs	5,000 lbs	TM 4-48.02
G-11B x 2	750 feet AGL	5,001 lbs	10,000 lbs	
G-11B x 3	750 feet AGL	10,001 lbs	15,000 lbs	
G-11B x 4	750 feet AGL	15,001 lbs	20,000 lbs	
G-11C x 5	1,150 feet AGL	20,001 lbs	25,000 lbs	
G-11C x 6	1,200 feet AGL	25,001 lbs	30,000 lbs	
G-11C x 7	1,200 feet AGL	30,001 lbs	35,000 lbs	
G-11C x 8	1,300 feet AGL	35,001 lbs	40,000 lbs	
G-12E x 2	550 feet AGL	2,270 lbs	3,500 lbs	
G-12E x 1	550 feet AGL	501 lbs	2,200 lbs	TM 4-48.03
G-14 x 1	300 feet AGL	200 lbs	500 lbs	
G-14 x 2	300 feet AGL	501 lbs	1,000 lbs	
G-14 x 3	400 feet AGL	1,001 lbs	1,500 lbs	
JPADS 2K	3,500 feet AGL	700 lbs	2,130 lbs	
LCLV	850 feet AGL	501 lbs	2,200 lbs	
Cross	150 feet AGL	80 lbs	200 lbs	
Double Cross	150 feet AGL	201 lbs	400 lbs	

10. Instrument Meteorological Conditions (IMC). IMC provides a greater amount of flexibility to Airborne Commanders, especially for large, joint operations, tactical reinforcements and special missions. IMC airborne missions facilitate the rapid and continuous parachute delivery and aerial resupply in fog, rain, snow, and darkness. Jumping under IMC also eliminates the requirement for DZC to be prepositioned on the DZ for wartime operations and increases the element of surprise on the enemy. DZCs are still inserted with the lead assault element and control follow-on missions. IMC also protects USAF A/C by providing concealment from some anti-aircraft platforms and Paratroopers from indirect fires.

a. Concept of employment.

- i. Always plan the airborne operation for both VMC and IMC without changing the landing or air movement plan. This allows the airborne force to execute at P-hour, regardless of the weather at DAF, enroute, or on the DZ.
- ii. Deliberately planned for and executed IMC assaults will enable units to capitalize on the principle of surprise.
- iii. For EDREs, execute them as soon as possible or by a NLT time during IMC conditions, such as critical reinforcement of other ground units.
- iv. Due to the reduced visibility during IMC, assault HE serials should precede PAX drops to reduce the time between HE and PAX assembly. The remaining HE should be scheduled subsequent to Phour.
- v. Coordination should be done between the USA and the USAF prior to the operation at the Respective JMB facility/equivalent.

vi. IMC should be routinely requested for all major exercises to ensure a successful airborne operation regardless of weather. Based on favorable weather information, the Airborne Commander may request a visual flight route (VFR) or confirm the initial IMC route and racetracks. If no request is made for IMC, the USAF may not have the appropriate equipment installed on the A/C and minimum ceilings will be 500 feet above drop altitude. (Example: drop altitude 1,000 AGL, minimum ceilings would be 1,500 feet AGL.)

b. Considerations.

- i. IMC operations require detailed planning and close coordination between USA and USAF elements.
- ii. Visibility during descent while under canopy and unit assembly will be restricted. All Jumpers must be thoroughly briefed on terrain with aerial photography, maps, and sand tables.
- iii. Commanders must evaluate the proficiency of the Jumpers participating in an airborne operation conducted under IMC prior to manifest. Ensure Jumpers are progressed with local policies and identified as being skilled and disciplined enough to jump under IMC conditions.

c. Safety considerations.

- i. Minimum ceilings for planned IMC airborne operations during peacetime is 500 feet AGL. This allows Jumpers adequate time to obtain situational awareness, avoid fellow Jumpers in the air and obstacles on the DZ.
- ii. The DZC will determine the ceiling height, via pi-ball, NLT 30 minutes prior to P-hour when ceiling height is in question. If, after two measurements, ceilings are measured below 500 feet AGL/planned minimum height listed on the DRAW the airborne operation will be aborted.
- iii. If a DZC is not available, the responsibility for determining ceiling height is assumed by the DZSO/DZSTL. Pi-balls, helium tanks, and all other required equipment for measuring ceilings are considered required equipment for all DZSO kits.
- d. **Abort criteria.** Abort criteria should be decided jointly during the JMB. Mission priority and follow-on missions must be considered during the coordination. During combat operations, the Airborne Commander and the Airlift Mission Commander will make a determination on what the "no-drop" conditions will be. Criteria must address number and duration of racetracks. Reference the following options:
 - i. Weather. Winds in excess of 13 knots for PAX and/or 17 knots for HE:
 - 1. **Option 1 Sympathetic Abort.** The entire formation makes a racetrack due to unsafe conditions listed above. On the second pass, drop anything that can be dropped (CDS, HE, PAX, or combination).
 - 2. Option 2 HE aircraft are able to drop cargo; PAX aircraft are not able to drop PAX. After drop, HE A/C will continue to final destination. PAX A/C will break formation and conduct one racetrack to attempt to drop PAX on the second pass. Determination must be made on how many passes will be attempted.
 - ii. Other than weather (mechanical/PAX issues).
 - Option 3 One or more HE A/C are not able to drop their cargo; PAX A/C are able to drop. "No drop" A/C will maintain formation and return to DAF, final destination, or will continue to a designated salvo (release all at the same time" DZ to release payload. Once PAX have exited the A/C, no HE will be dropped on the same DZ.

- Option 4 HE A/C can drop cargo; less than 10% of total Airborne Force does not drop. PAX formation will not execute an additional pass unless it is determined by the Airborne Commander that 100% of the Airborne Force is required for the successful completion of the mission. A/C transporting Key Leaders will make all possible attempts to conduct a racetrack to drop them or if the assault force will air-land instead of jump.
- 3. Option 5. HE A/C are able to drop cargo; more than 10% of total Airborne Force does not drop. After drop, HE A/C will continue to final destination and PAX A/C will break formation and attempt one or more additional racetracks, if possible.
- 4. **Option 6. Other, as required.** Must be coordinated in advance based on mission, enemy, terrain and weather, troops and support available-time available, and USAF capability.

4.9 Factors of the landing plan and assembly on the DZ.

- 1. Proper planning and incorporating safety measures on active DZs during and after the airborne operation will ensure a smooth transition to the tactical ground movement and prevent delays and decreases in the realism of the follow-on mission.
- HE and CDS planning factors. HE and CDS should always occur before the drop of PAX to prevent the
 possible injury or death of a Jumper that is on the DZ and unable to avoid the equipment as it falls on the
 DZ. If the decision is made to drop, HE or CDS after PAX drop has completed, an adequate buffer time
 will separate the two and all PAX will be accounted for and off the DZ.

3. Methods of turn-in of air items on the DZ.

i. Administrative parachute and air item turn in on the DZ is artificially tactical. Parachutes and other air items will be deliberately recovered and accounted for in peacetime exercises. All units must take reasonable and responsible measures to prevent damage and maintain accurate accountability. There are generally two different methods of parachute turn-in during peacetime airborne operations:

ii. Turn-in point.

- Multiple turn-in points. Establish set points on the DZ where Jumpers can turn in their parachutes and air items quickly and move immediately to rallying at the AA and moving on their objective. Utilizing multiple points on the DZ for turn-in decreases Jumper fatigue and increases response time to the actual mission on hand. Initial turn-in point should be 150 meters from the PPI (in the direction of flight and spaced no farther than 250 meters from each other.
- 2) **Single turn-in points** should be reserved for proficiency jumps that have low amounts of CE and no follow-on mission. This allows for the easiest and most accurate accountability of Jumpers and equipment at the expense of having Jumpers carry their parachutes and air items over greater distances.

When setting up a turn-in point for rotary wing airborne operations, place them off the DZ and away from the LZ to facilitate rapid assembly of equipment and prevent rotor wash from interacting with canopies.

3) Leave in place.

ii. "Bag and run" method. The Jumper leaves their parachute in place after they collect the parachute in their universal parachutist recovery bag (UPRB) or aviator's kit bag (AKB) along with all associated air items and mark it with the method decided by the Airborne Commander in the S-3 air brief. Examples are orange garbage bags, chemical lights, etc.
iii. "Pop and drop" method. The Jumper activates both canopy release assemblies, places their weapons into operation, remove themselves from the parachute harness, and moves on to their AA and objective. This is the least preferred method as it will create obstacles that limit or add risk to follow-on air assaults, aero medical evacuations (MEDEVAC), and airlands. It also creates poor accountability of equipment and can lead to unnecessary damage to parachutes and air items. These were major items on the AAR from Operations Just Cause and Operation Junction City. Ultimately, the Airborne Commander is responsible for the accountability of all parachutes and air items used in the operation.

Units must make every effort to safeguard parachutes and air items from getting wet from weather and hazards on the DZ. Maintain accountability and ensure that the PIF has enough space in their tower for drying operations.

iii. In combat

- i. Jumpers will ensure their parachutes were not hazards for future airland or air assault operations then move immediately to their AA and objectives. Air items will still be moved a minimum of 50 meters off runways, taxi ways, and flight landing strips (FLS) in combat.
- iv. Methods of marking turn-in points. Units will determine their markings that suit their tactical needs. Any marker high enough to be easily seen in all directions and be positively identified by the Jumper may be utilized. Ensure markers are located at each turn-in point and are not easily confused with assembly aids, such as Steiner Aids. Below are recommended tactics, techniques, and procedures (TTP).
 - i. Daylight turn-in point markers should be constructed on poles at least 10 feet high to be easily identified by the Jumper from any direction. Markers must be easily collapsible and transportable so they can be quickly moved to where the majority of Jumpers land.
 - ii. Night turn-in point markers should also be constructed of easy to move poles at least 10 feet high. The markers can be made from anything that gives off sufficient light to be easily identified from any direction. Colors, type of light, etc., must be coordinated at the S-3 Air Brief to avoid confusion with unit assembly. Re-address marking styles with Jumpers at the MACO brief.
 - iii. Every fourth or fifth Jumper can also be utilized as a turn-in point. Once on the ground, those identified Jumpers don a reflective vest or begin a chemical light buzz saw. Once all air items are collected at the designated Jumper turn-in point, the Jumper moves out to their AA/objective and reports their accountability.
- v. **Turn-in point procedures.** The following key points will assist with the efficient and effective collection of accountable items on the DZ and facilitate the rapid transition into the ground tactical plan:
 - i. The number of turn-in points should be based on the size of the active DZ being utilized for the airborne operation. It is highly suggested that the initial turn-in point be placed 150 meters from the PI and every 250 meters after that parallel to the direction of flight. After the initial drop, move the turn-in points closer to where Jumpers landed and set markers up that can be easily seen (see paragraph 4.9, 3). Do not set up markers behind bushes, trees, or low spots on the DZ where Jumpers will have difficulty identifying the turn-in points.
 - ii. Turn-in detail PAX are and will remain for the duration of the airborne operation, administrative. Once all air items have been accounted for on the DZ, detail PAX must stay in place and follow through with their mission of collecting up and turning-in all equipment. Detail PAX should refrain from the following:

- 1) Critiquing PLFs, slips/turns, and tactical movements.
- 2) Give direction or assistance to Jumpers to their assembly areas.
- 3) Distract the tactical scenario by using white light or other unapproved light sources other than the planned turn-in marking plan. This may confuse Jumpers or Medics on the ground and delay the tactical ground plan or medical treatment/evacuation.
- 4) They should adhere to policies concerning electronic devices.
- iii. If the turn-in point lights can be confused with the DZSO code letter, wait until the last pass is complete or turn off when aircraft are approaching.

4.10 Communications Planning Requirements

- Communication throughout the airborne timeline is crucial in ensuring a successful airborne operation. Strictly following an established primary, alternate, contingency, and emergency (PACE) communication plan will prevent delays to the airborne timeline and follow-on mission. Pre-combat checks (PCC) and precombat inspections (PCI) will be conducted between all Key PAX and their subordinates before the beginning of the airborne timeline. Communications will be established for the following Key PAX on all airborne operations.
 - a. DACO. The DACO is the main communications hub between the DZ, DAF, the Air Shop and USAF to the Airborne Commander. The DACO will constantly communicate between all Key PAX (PJs, DZSO/DZSTL, MACO, Air Shop, USAF/Liaison, DAF, etc.) and update the Airborne Commander on any status changes or impacts to the airborne timeline as well as sending requests for information (RFI) for the Airborne Commander to any agency required.
 - b. DZSO/DZSTL. The DZSO/DZSTL is the Airborne Commander's representative on the DZ and reports directly to the DACO and Airborne Commander to relay pertinent information on the DZ. The DZSO/DZSTL will have communication with the ADZSO/ADZSTL, USAF DZC (if available), USAF AC, USA AC with a transition frequency, MACO, Senior Medic, Parachute NCOIC, Range Operations, ladder and road guard details and any other PAX identified during the S-3 Air Brief that will be operating near or on the DZ. It is the responsibility of the DZSO/DZSTL to communicate between all subordinate PAX and compile, synthesize and relay that information back to the DACO.

Personal or government cellular phones will only be utilized as a last resort for communications on the DZ.

4.11 Drop Zone Medical Operations

1. Proper medical coverage is essential for the safe and successful completion of all airborne operations due to their inherent risk involved. The following guidelines are based off of subject matter experts (SME) throughout the airborne community and are tried and true plans that will adequately support most airborne operations. This section provides the Airborne Commander guidance for planning considerations and recommended, established practices, and a detailed medical coverage package to maintain the lowest risk level possible. Units may deviate from this section's recommendations to optimize the medical support package to best fit the airborne operation. If the Airborne Commander decides to reduce medical support below the recommended levels in this section, it must be addressed in the DRAW and the DRAW Authority must be made aware.

2. Terms and scopes of practice.

 a. "Medic" refers to any personnel holding the primary MOS of 68W (Combat Medic), 38B (Civil Affairs Medical Sergeant), or 18D (Special Forces Medical Sergeant) or has the additional skill identifier of W1 (Special Operations Combat Medic) and has maintained their appropriate credentials for their MOS/ASI. Medics are responsible for the following:

- i. Ensuring their military ID is on hand.
- ii. Maintaining communication with the Senior Medic.
- iii. Providing appropriate care to all injured Jumpers.
- iv. Fully clearing their assigned zone of coverage if assigned as a dismount Medic. This includes conducting an initial sweep of their zone prior to the jump to identify and clear/mark any hazards that may be a risk to Jumpers.
- v. Properly completing the Tactical Combat Casualty Care (TC3) cards (DD form 1380) are completed and maintained with the patient upon transfer to higher care.
- vi. Maintaining positive control of all of the casualty's equipment until it is handed off to the parent unit or appointed investigative authority.
- vii. Identifying and assigning expeditious litter teams when multiple casualties exist, or air medical evacuation (MEDEVAC) is utilized.
- b. "Senior Medic" refers to the highest-ranking Medic on the DZ that all other Medics report directly to. The minimum rank for a Senior Medic is SGT (E-5) and is designated by the Commander of the supporting unit or a designated representative such as the Battalion Senior Medic/Medical Platoon Sergeant. The following are the direct responsibility of the Senior Medic:
 - i. Directly communicating with the DZSO/DZSTL on casualties and directing care and evacuation with their subordinate Medics.
 - ii. Inspects and ensures that all equipment, material, and vehicles are present, available, and serviceable before and during the airborne operation.
 - iii. Ensures that the medical support package meets the requirements set by the Airborne Commander.
 - iv. Ensures that all Medics tasked are fully qualified and credentialed to conduct medical operations IAW MOS requirements and appropriate Annex of the CAASOP.
 - v. Conducting joint reconnaissance with the DZSO/DZSTL to identify hazards on the DZ and designating casualty collection point(s) (CCP). The PPI may be utilized as a CCP and, due to the size of some DZs, multiple CCPs may need to be designated to prevent the need of transporting casualties over rough terrain that may worsen injuries, such as to the neck and spine.
 - vi. Assigning dismounted Medics to zones of coverage per the approved medical support plan.
 - vii. Maintaining communications with all dismounted Medics and FLAs for the duration of the airborne operation.
 - viii. Pre-designating multiple contingency pick-up zones (PZ) for air MEDEVAC and providing the 10-digit grid coordinates to the DZSO/DZSTL prior to the drop.
 - ix. Confirming that all dismount Medics have cleared their zone prior to the drop and after every pass. This information must be relayed to the DZSO/DZSTL in a timely fashion.
 - x. Making the final decision, based off casualty's condition, remaining capabilities, number of casualties, etc. for those needing air MEDEVAC. This request must be relayed to the DZSO/DZSTL to request air MEDEVAC response.
 - xi. Ensuring FLAs are prepositioned before the operation and do not present a hazard to Jumpers during the operation.

- xii. Coordinating approval to move FLAs on the DZ from the DZSO/DZSTL for movement to and from the point of injury to casualties and to the CCP.
- xiii. Ensure appropriate aid is being rendered to all casualties within scope of practice.
- xiv. Reviewing all TC3 cards and documentation, completing as required.
- xv. Collecting full name, unit, DoD ID number for all casualties that require MEDEVAC and relaying to DZSO/DZSTL. Maintain a patient tracker for all casualties so accountability of all PAX is maintained for the airborne operation.
- xvi. Relaying a standard nine-line MEDEVAC request to the DZSO/DZSTL if casualties require a level of care that requires transportation off the DZ.
- c. "FLA" refers to any vehicle that is capable of safely transporting a patient on a litter to a higher level of care. The M977 variants of the HMMWV are the preferred method of patient transport, but other vehicles may be substituted based on availability, environment, and capabilities. Regardless of vehicle type, it still must be outfitted IAW Appendix D-12 (FLA Load Plan). Due to the high OPTEMPO for modernization of Class VIII substitutions are authorized as long as they are approved and provide the same or higher treatment capability. Casualty Evacuation (CASEVAC) vehicles that are not specifically designed for transporting patients but are capable of securing a litter safely and moving a patient to a CCP or higher level of care must be addressed in the DRAW and the DRAW Authority be made aware.
 - i. The following consists of an FLA Crew: a licensed driver (MOS immaterial), and two Medics.
 - ii. FLAs and all other vehicles must be running with the driver prepared to move to prevent injury to Jumpers as they land. The Truck Commander (TC) will be outside the vehicle observing Jumpers in the air and guiding the vehicle away from being a hazard. At no time will a vehicle move on the DZ unless required to in order to prevent a hazard and will always be ground guided to prevent injury to Paratroopers who may be conducting tactical moves and unseen by the driver.
- d. "Medical Officer" refers to any personnel holding the primary MOS of 65D (Physician Assistant), 61A (Emergency Room Physician), 61B (Field Surgeon), 61F (Internal Medicine Physician), 61H (Family Medicine Physician), 61J (General Surgeon), 61Z (Neurosurgeon) or other competent medical authorities with the scope and practice to give medical direction and orders per appropriate licensure. All Medics, to include the Senior Medic, will fall under the Medical Officer when present on the DZ.
 - i. The Medical Officer will be present on all large scale, airborne operations when more than 240 Jumpers are in the air at one time, or 360 total Jumpers are involved.
 - ii. The Airborne Commander may require a Medical Officer on the DZ if it is evaluated to be a higher risk operation, there is a large number of inexperienced Jumpers in an airborne operation, weather conditions are poor, etc.

3. Types of medical operations.

a. **Medical support at the DAF.** The Airborne Commander may consider utilizing a medical support package at the DAF during inclement weather conditions, such as extreme heat/cold, lack of facilities, and large-scale operations. The medical support team will operate under the control of the DACO and remain at the DAF until released by the DACO, usually upon the return of the AC to the DAF or reported that there are no alibi/non-jumping PAX that require aid upon completion of all passes. All Medics will have stocked aid bags IAW local SOP and when heat categories are forecasted or become heat category (Heat CAT) IV or higher will also have ice sheets on hand. Medical support PAX may transition to in-flight duties if approved by the Airborne Commander.

b. Medical support in-flight. Non-jumping Medics should be manifested when Heat CAT is at or projected to be IV or higher or on operations that have a four-hour duration or longer. Medics who are Jumpers should be utilized as a last resort due to the hazard and difficulty of derigging a jumping Medic, getting them into a position to render aid, and losing combat power on the ground. The following are the scope and requirements for both jumping and non-jumping Medics.

i. Non-jumping Medics.

- 1) Duties begin at manifest and continue until released by the DACO.
- 2) In-flight medics must have stocked aid bags and, if actual or forecasted weather is a Heat Cat IV and above, ice sheets. Commanders should consider the cumulative effects of heat exposure over the entire airborne timeline.
- While conducting in-flight medical operations, all non-jumping Medics are under the direct control of the PJ until the PJ exits the AC. Control of all non-jumping Medics is transferred to the DACO until released.
- 4) Non-jumping Medics must be supplied with Advanced Emergency Bailout Parachutes (AEBP) or a safety harness to provide aid if the ramp or Paratroop Doors are open. It is the responsibility of the PJ to ensure that all Medics utilizing an AEBP understand the operation and proper wear of the equipment.
- 5) The in-flight Medic is responsible for providing appropriate aid to all Jumpers on the AC they are assigned to and advise the JM team if the casualty's condition prevents them from exiting or requires aborting the mission in a medical emergency.
- 6) The JM team must designate the seating location of all non-jumping Medics. This can be briefed during the MACO brief or SAT.

ii. Jumping medical personnel.

- 1) All Medics and Medical Officers who are jumping should carry an aid bag on every airborne operation. Trained Combat Lifesavers (CLS) PAX should carry a CLS bag when determined necessary by the Airborne Commander.
- 2) Medical PAX should be cross loaded during an airborne operation. When non-jumping Medics are not available, they will assist the JM team in handling any medical issues that may occur during flight and provide medical assistance to any injured Jumpers on the ground after landing on the DZ. Again, rendering aid in a parachute system is a complication and can lead to passes being scratched or the entire mission getting aborted if medical PAX have to remove equipment and derig their aid bags to render care in the AC. Paratroop doors will not be opened when equipment and PAX are not secured inside the AC or hooked up to an anchor line cable.
- 3) Medical PAX who jumps will render aid to injured Jumpers on the DZ as their first responsibility. This takes precedence over their accountability at the AA and their responsibility to turn in their air items a turn in point until relieved by the DZ Medics.
- 4) During real world combat operations, there may be significant delay before an AC can return to an airfield where the casualty can receive care. It may be preferable for the ill or injured Jumper to exit the AC and have care rendered on the ground, if they can do so in a safe manner.
- c. **Medical support on the DZ.** During peacetime operations and training, medical care of injured PAX on the DZ will not be delayed due to the type of exercise or desired training objectives. The Medical Officer or Senior Medic will coordinate and manage aid being rendered on the DZ and communicate frequently with the DZSO/DZSTL on updates to the amount, condition, and location of all casualties on the DZ.

Medical support packages are based on the number of Jumpers that are in the air at any one time, unless there are over 360 total Jumpers for an airborne operation. Immediate trauma and medical control are essential on a widely dispersed DZ in order to mitigate further injury and prevent loss of life. The following table (table 4-10a) is a quick reference to gain the minimum medical support package.

Medical Personnel	Jumpers per Pass					Unique Mission Sets						
	Up to 60	61- 120	121- 240	241- 360	360- 480	481- 600	601 and up	Airland	UH-60	HALO/ HAHO	Single pass operations of 20 PAX or less	HE only (not required)
Medical Officer				1	1	1	1					
Senior Medic	1	1	1	1	1	1	1	1	1	1	1	1
Dismount Medics	1	2	3	3	4	5	6	2	1	1	1	
FLA (2 x Medic, 1 Driver)	2	2	2	3	4	4	4	1	1	1	1	1
Total MO/Medics	0/6	0/7	0/8	1/10	1/13	1/14	1/15	0/5	0/4	0/4	0/4	0/3
NOTE: Medical Officer is required for more than 240 Jumpers per pass or more than 360 total Jumpers												

for an operation.

Table 4.11a – Minimum Medical Requirements for Airborne Operations

Dismounted Medics are separate personnel than those assigned to an FLA team. Medics will not be double tasked to an FLA and assigned to dismount duties at the same time.

- i. The Senior Medic should be positioned on the DZ in a location that best allows them to supervise medical operations over the greatest area of the DZ. They do not need to remain co-located with the DZSO during the operation, however constant, reliable communication channels must be maintained between the two parties. The Senior Medic must also maintain communication with all dismounted Medics and FLAs on the DZ. A dedicated FLA is not required for the Senior Medic; however, a separate mode of transportation is suggested to the Senior Medic is able to move to a casualty or have the flexibility to manage a mass casualty (MASCAL) event.
- ii. Except for "Unique Mission Sets" listed in table 4-10a, the minimum medical support package for an airborne operation is one Senior Medic, one dismounted Medic, two FLAs with associated crew (two Medics plus one driver, MOS immaterial).
- d. Developing the medical support package for a DZ. Often satisfying the minimum requirements for a medical support package will not be sufficient for more complex airborne operations, such as large scale JFEs on unfamiliar DZs to the Jumpers, in-flight rigging where Jumpers will be fatigued, etc. The Military Decision Making Process (MDMP) and utilization of risk reduction via the DD Form 2977, Deliberate Risk Assessment Worksheet (DRAW) must be used when evaluating the scatter plan and positioning Medics into appropriate zones for the airborne operation. Airborne Leaders, the DZSO/DZSTL, and Pathfinder qualified PAX will determine the area which the Jumpers should land within the DZ. This area starts at the PPI and extends along the surveyed DZ along the direction of flight until the trail edge of the DZ is met, the estimated time of "green light" has expired, or the number of Jumpers to be released per pass. Concentrating your medical assets appropriately where Jumpers are predicted to land ensures casualties can be identified and treated quickly without wasting valuable medical assets in an area where Jumpers will not be landing. Utilize the following methods to determine scatter plan length:
 - i. Surveyed DZ. The entire length of the surveyed length of the DZ from the PPI to the trail edge of the DZ.

- ii. Available "green light". From the PPI to a specified distance determined by seconds of planned "green light" on the A/C. To determine the distance, take the planned seconds of "green light" multiplied by 75 yards/70 meters. Example: 20 seconds of "green light" x 75 yards = 1500 yards of area to cover with the medical support package.
- iii. Jumpers per pass. From the PPI to a specified distance determined by the maximum number of Jumpers exiting per pass. To determine the distance, use the following formulas:
 - Alternate Door Exiting Procedures for Training (ADEPT) Option 1. Total number of Jumpers for one Paratroop Door multiplied by 75 yards/70 meters. Example: There are 25 Jumpers per Paratroop Door. ADEPT Option 1 only releases one Paratroop Door per pass, so 25 Jumpers x 75 yards = 1,875 yards of area to cover with the medical support package.
 - 2) Alternate Door Exiting Procedures for Training (ADEPT) Option 2. Total number of Jumpers for both Paratroop Doors multiplied by 75 yards/70 meters. Example: 25 Jumpers per Paratroop Door. ADEPT Option 2 releases both Paratroop Doors, PJ door followed by AJ door. 50 total Jumpers x 75 yards = 3,750 yards of area to cover with the medical support package.
 - 3) Mass Exit. Total number of Jumpers to be released per pass, divided by two. Then multiply that number by 75 yards/70 meters. Example: 54 total Jumpers / 2 = 27 Jumpers per Paratroop Door. 27 Jumpers x 75 yards = 2,025 yards of area to cover with the medical support package.
- iv. Once the length of the scatter plan is determined, divide the DZ into "zones of coverage". A zone will not exceed 1,000 meters per dismount Medic and no more than 2,000 meters per FLA. This will ensure that all Jumpers can expect to land no further than 500 meters from a dismounted Medic and no more than a kilometer from an FLA during an airborne operation. A long or widely dispersed scatter plan may require additional medical assets to provide adequate medical support on the DZ.
- v. Dismounted Medics will be positioned on the DZ where they can best observe their zone of coverage. This varies by DZ, but in general is a high point with unobstructed views of the expected impact area of the Jumpers. Landmarks should be established between adjacent Medics to ensure each medic knows their left and right limits. Dismount Medics will conduct complete sweeps of their zones after each pass, to include during tactical exercises.
- vi. FLAs will be positioned on the outside edge of the DZ, adjacent and centered on their zone of coverage. FLAs should not be positioned centerline of the DZ where they could pose a hazard to the Jumper. Per direction of the Senior Medic, FLAs may be redirected into other zones of coverage if the capacity of current medical assets are overwhelmed.
- vii. The Senior Medic will be positioned in a location where they can best survey the entire DZ and manage the entire medical support package.
- viii. Commanders may increase resource requirements based on their analysis of the mission. For example, units may employ additional MEDEVAC/CASEVAC platforms, dismount Medics, establish a Battalion Aid Station (BAS) adjacent to the DZ, coordinate a forward staged air MEDEVAC platform, coordinate with local EMS, or establish an Ambulance Exchange Point (AXP).
- ix. Once the airborne operation has begun, medical support will be continually reassessed, and positioning will be adjusted as necessary per direction of the Senior Medic.
- x. There is no requirement to cease an airborne operation solely due to an evacuation of a casualty that results in the loss of an FLA/CASEVAC platform as long as a deliberate re-assessment is made by the Airborne Commander. Considerations for the Airborne Commander should include number of passes/lifts/Jumpers remaining, mission requirements, weather, probability of additional injuries overwhelming remaining medical support package, etc. If remaining medical assets are assessed to

be adequate to continue the airborne operation, the Airborne Commander may direct the drops to continue.

- xi. During the deliberate planning process for large-scale airborne operations on large DZs, unique scatter plans may be developed to support the ground tactical plan. In such instances, a unique medical support package may also be developed by the planning staff and approved by the Airborne Commander.
- xii. Treating casualties on the DZ. Medical personnel are expected to identify, assess, treat, and evacuate casualties within their scope of practice based on the condition of the patient. Due to the mechanism of injury (MOI), C-spine precautions are frequently a consideration. Medics should only cut the parachute harness or air items if necessary to begin life saving measures or if moving the patient will cause further injury. The following procedures will be followed unless otherwise dictated by the Airborne Commander at the S-3 Air Brief.
 - Dismounted Medics may treat casualties at the point of injury or escort the casualty to the FLA in order to continue clearing their zone of coverage based on the condition of the patient. Conducting a good handoff of casualties from the dismounted Medic to the FLA crew for thorough assessment and treatment is the preferred method.
 - 2) If injuries are minor, jumping Medics can assume treatment on the DZ and then move out to their assembly area after assisting their fellow Jumper.
 - 3) All casualties must be reported to the Senior Medic as soon as possible to manage assets on the DZ and enable reporting to the DZSO/DZSTL.
 - 4) Movement of casualties via FLA to CCP must wait until all Jumpers are on the ground for the current pass/drop and clearance must be given via the DZSO/DZSTL. No drops will occur with vehicles moving on the DZ and will be guided by a ground guide to prevent injuries to Jumpers on the ground.
 - 5) Once treatment of casualties has occurred, a status update of remaining capabilities must be reported up to the Senior Medic to facilitate exchange of CL VIII or personnel and to ensure the Airborne Commander is informed to decide to continue the airborne operation or abort.

Non-airborne qualified Medics must be familiar with the removal of the parachute harness to prevent unnecessary damage and loss of air items.

If there is serious injury, death, or another serious incident that requires the investigation process to begin, the Airborne Commander will cease the airborne operation and follow the guidelines listed in Appendix H, Serious Incident Response Procedures, as well as allow the MALFO to implement their required actions IAW AR 59-4.



Example 4.11a – Medical Support Package Based on Entire Length of DZ

* Senior medic co-located with DZSO/DZSTL since monitoring entire DZ is not possible with an additional FLA in order to be able to respond to medical emergencies across the entire DZ. FLAs placed on the outside edge and within 2000 meters of each other. Additional dismounted Medics placed to cover no greater than 1000 yards of zone. Medical Officer only required if greater than 240 Jumpers in the air at one time or greater than 360 Jumpers for entire operation.

When in doubt, determine zones of coverage and requisite medical assets based on the entire length of the surveyed DZ.

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Example 4.11c – Concentration of Medical Support Package Based on Number of Jumpers * Senior Medic assisting the one dismounted Medic to cover 750-yard zone of coverage. Only one dismounted Medic required since there is only one zone of 1000 yards or less based on calculations.

- 4. **Handling of casualty's equipment.** The Jumper's equipment is an extension of the Jumper and must be maintained and transported with the patient to the CCP. All weapons, sensitive items, TA-50, and air items must be collected with the casualty and transported to the CCP. FLAs should have garbage bags to collect up loose items or equipment that was cut/removed from the patient. The following procedure should be used for positive control of casualty equipment unless otherwise planned, briefed, and approved by the Airborne Commander:
 - a. If casualties are evaluated, treated, and identified as having injuries that require a higher level of care, transport the casualties to the CCP. Medics are able to assign Jumpers on the DZ to assist in the collection of equipment and bringing it to the FLA.
 - b. It is suggested that Medics mark the point of injury on the DZ in the case that an item is lost as a point of reference to begin searching.
 - c. If the Jumper's injuries are identified to be life, limb or eyesight, notify the Senior Medic with coordinates to the point of injury and take appropriate actions to treat and prepare casualty for air MEDEVAC or other means of transportation. Equipment will be part of the investigation and collected by the MALFO IAW AR 59-4.
 - d. The Airborne Commander will assign a representative to be present at the CCP for the purpose of accounting for all casualties and their equipment. All equipment will be inventoried on a DA Form 3645, *Organizational Clothing and Individual Equipment Record.* This will be done in duplicate. The representative has the sole responsibility for maintaining accountability of all equipment until a positive handoff can be made with a member of the casualty's unit.

- e. The CCP will inform the Airborne Commander of the status of the casualty along with their equipment by name, rank, and unit. If the CCP is unable to contact the Airborne Commander, they will update the DZSO/DZSTL to relay the information further.
- f. If the tactical scenario requires a swift departure off the DZ, the Airborne Commander will designate a representative to clear the DZ. The Airborne Commander or the representative is not released from the DZ until all personnel and equipment are 100% accounted for.
- g. The names, ranks, and units of all personnel designated to secure the casualty's equipment will be listed on the FLASH report, so units are able to quickly gain accountability of their equipment.

Accountability of equipment will not delay MEDEVAC. Life, limb or eyesight is always the priority.

- 5. Evacuation. No casualty will be evacuated off the DZ without the authorization of the Medical Officer or Senior Medic. Authorization can occur in person or via radio. The Senior Medic will then relay that information to the DZSO/DZSTL to send up to the Airborne Commander and appropriate channels if an air MEDEVAC is required to be dispatched. The following considerations and techniques will be utilized when conducting evacuation of casualties:
 - a. Ambulatory casualties should self-extract themselves to the CCP if it will not cause them further injury. If they are unable to move under their own power, or movement will cause further injury, the casualty will get the attention of a Medic on the ground through means identified by the Airborne Commander, such as activating a red chemical light during night jumps. Shouting "MEDIC" on the DZ should be reserved for serious injuries such as fractures, loss of consciousness, hemorrhage, penetrating wounds, etc.
 - i. **Ground evacuation** is the primary means of evacuation unless the casualty's condition requires air MEDEVAC. This can occur with either an FLA or a dedicated CASEVAC vehicle.
 - 1) Two FLAs are the minimum amount required for all airborne operations, unless otherwise noted in "Unique Mission Sets" in Table 4-10a.
 - 2) If FLAs are not available, the Airborne Commander may authorize the use of dedicated CASEVAC vehicles. A CASEVAC vehicle can be any government owned or leased vehicle that can safely transport a patient, in a litter, to a higher level of care. CASEVAC vehicles must still be stocked appropriately, have a covered patient compartment, adequately secure a patient in a litter, and able to transverse the terrain of the DZ for exchange unless prepositioned at an AXP.
 - 3) If a CASEVAC vehicle is used to supplement FLAs for ambulatory patients, as assessed by medical personnel, the vehicle must be equipped with a Combat Life Saver (CLS) or aid bag. These vehicles do not need the capability to transport patients on litters, as there are FLAs that are capable of that on the DZ as well.
 - ii. **Air evacuation** is utilized for serious injuries where ground evacuation would either cause further injury to the patient or the patient requires more immediate transport to a higher level of care as determined by the Medical Officer or Senior Medic and requested through the DZSO/DZSTL.
 - Evacuation requests are made by utilizing the 9-line MEDEVAC request format with a Mechanism of injury, Injury type, Signs and symptoms, Treatment given (MIST) report to Range Operations when operating on a military installation.

- Range Operations should dispatch both ground and air MEDEVAC platforms in the event of a MASCAL so urgent and surgical patients can be prioritized for air MEDEVAC and priority and lower patients can be sent via ground MEDEVAC.
- 3) Pick-up zones (PZ) must be established, away from hazards to the AC, and easily identified in the air. Utilize smoke or VS-17 panels for daytime operations and white light for marking at night. Coordinate the marking type through the DZSO/DZSTL to relay to the air crew.
- iii. Coordination for other medical support for on or off-post operations. Always notify local medical treatment facilities (MTF) or local hospitals before large scale airborne operations. For off-post airborne operations, it is commonplace to notify local hospitals in the area. For large scale airborne operations, the Airborne Commander may assign a medical liaison to the hospital/MTF Emergency Room to assist in accountability and reporting the medical status of evacuated Jumpers.

4.12 Parachute Rigger Facility Procedures

- Parachute Rigger Facilities (PRF) encompass issuing, receiving, packing, repairing, and maintaining of the USA's multimillion dollar parachute inventory. Safeguarding air items and protecting them from damage to the greatest extend ensures that the CAF will be able to respond to any airborne mission, worldwide at a moment's notice. Although some procedures and forms may vary from location to location, these generalized rules and procedures are generally accepted and will be followed universally.
- 2. **Care of air items.** All air items must be properly protected from the elements, exposure to substances that will degrade the composition of their components, and abuse. Due to their sensitive nature, food, tobacco products, solvents, oils and the like must be kept away from all air items. Exposure to many common fluids and chemicals causes rapid and severe degradation of the integrity of nylon, in particular, and must be avoided at all costs.
- 3. **Security of air items.** Maintaining the security of all air items should be paramount for any unit. Ensuring that air items are monitored, transported, issued, collected, and returned under proper supervision and strict accountability will ensure that pilfering and tampering does not occur. Ensure these general rules are followed when air items are issued to the unit:
 - i. Personal responsibility to units for air items will be established via hand receipts.
 - ii. Air items will not be used for anything outside of their intended purpose.
 - iii. Air items issued at the PRF will not be transported via personally owned vehicles (POV).
 - iv. Air items will not be issued to a using unit in a delinquent status (previous air item issue not 100% accounted for and turned in properly to the PRF).
 - v. Using units in a delinquent status are prohibited from using air items issued to another unit.

4. Requesting air items.

- a. DA Form 1687, Notice of *Delegation of Authority Receipt for Supplies*. Individuals requesting and/or receiving air items must appear on a valid DA Form 1687. Proper utilization of this form can be found in DA PAM 710-2-1, *Using Unit Supply System (Manual Procedures)*. When processing a DA Form 1687, multiple forms may be required. If this is the case, ensure that original signatures are used on all copied. Photocopied signatures will not be accepted. Route the DA Form 1687 through the PRF to be verified and stamped for approval before drawing air items.
- b. Assumption of Command orders for the responsible Commander. Assumption of Command orders are required to be submitted in conjunction with the DA Form 1687. Ensure at least two copies are attached upon routing to PRF.

- c. DA Form 3161, *Request for Issue or Turn-In* or unit equivalent. The standard DA Form 3161 or a specialized unit form can be utilized for the request, issue, and turn-in for air items at PRFs. Reference PRF SOPs for their preferred form and proper use. All information on the form must be filled out completely to include unit, date for pick up, number and type of AC, equipment needed, issue dates and times, donning time of parachutes, load time (LT), P-hour, DZ, using unit POC with phone number, and line number (if necessary).
- d. If conducting off-post training, state where, when, and how long equipment will be gone and coordinate with PRF to have the necessary areas open to receive equipment upon returning to home station.
- e. Initial coordination for stateside, off-post training will begin NLT 30 calendar days prior to the departure date.
- f. Initial coordination for OCONUS off-post training (requiring passports and country clearances) will begin NLT 90 calendar days prior to the departure date.
- g. DD Form 200, *Financial Liability Investigation of Property Loss (FLIPL)*. A FLIPL must be initiated by the supported unit when their account becomes delinquent. A signed copy of the initiated DD Form 200, with survey number and document number, must be brought to the PRF to clear the delinquent status and enable the unit to continue to request equipment.
- 5. Air item issue and turn-in. All issue locations and times must be verified and adjusted with the PRF. Units must make every effort to meet their issue times to ensure it does not cause complications with issuing items to other units, delaying the airborne timeline and compromising meeting ST with the USAF.
 - a. The unit that owns the Airborne Commander (for multi-use lines) may sign for all PAX parachute systems for that line number; however, this is not necessary.
 - b. The Airborne Commander (for multi-use lines) may sign for all air items for HE/CDS loads or require the units providing the loads to sign for their air items individually.
 - c. The using unit must provide vehicles and PAX to handle all air items requested, along with protective coverings to prevent exposure to weather upon transport and issue. The unit representative must ensure that all items being issued are accounted for on the DA Form 3161/specialized unit form. Once issue is completed, alterations are not authorized to the amounts listed and the signee is responsible for returning the exact quantities and types of items listed on the form.
 - d. If off-post training requires palletization of air items, arrangements must be made with the PRF NLT 20 working days prior to departure. Using units are responsible for obtaining pallets, nets, dunnage, lumber, and protective coverings for all air items to be transported. Using units are also responsible for palletizing equipment and parachutes for transport.
 - e. When possible, after air items have been issued and all Jumpers have loaded the AC, the using unit should turn in all unissued equipment to the PRF prior to departing to the DZ.
 - f. All wet parachutes must be turned in to the PRF immediately following the airborne operation to prevent damage from mold. If inclement weather is forecasted during the airborne timeline, permission to "jump in the rain" must be requested through the PRF. This will ensure that drying towers are operational have enough room to facilitate the proper hanging of canopies. Using unit will not receive turn-in credit until all air items are hung, dried, and taken down. Coordination must occur with the PRF to forecast a time for the parachute detail to return and take down hung canopies.
 - i. If a large number of wet parachutes are projected or will not be able to be properly hung in the appropriate drying tower within 24 hours of getting wet, using units are authorized to refrigerate wet canopies for up to seven days to prevent mold growth. The temperature must be maintained

between 33-39 degrees Fahrenheit with adequate circulation to ensure all material is cooled to the appropriate temperature range. To prevent damage, wet parachutes will NEVER be frozen.

- ii. If air items are not properly maintained and damage occurs due to molding or freezing, a FLIPL will be initiated for all unserviceable items.
- g. If any parachute or component is immersed in a freshwater lake, river, or stream, it will not require rinsing unless it has been ascertained that the water is dirty, oily, or otherwise contaminated.
 - i. If the water was contaminated, the using unit is responsible for rinsing the equipment IAW TM 10-1670-326-23&P for the T-11 ATPS or TM 10-1670-327-23&P for the MC-6 PPS.
 - ii. If the water was not contaminated, the using unit is responsible for the appropriate hanging, drying, shake-out and taking down of all air items at the PRF or refrigerating for up to seven days per previous guidance in paragraph 4.11, d, 6.
- h. Units requesting equipment from the HDRS must first process the necessary request paperwork (DA Form 3161/specialized unit form) through the PRF. When requesting issue of items from HDRS, only blocks 1, 2, 5, 12 (a-e), and 13 must be filled out. All expendable air items will be placed on the HDRS issue/turn-in form. This form will also be used for de-rigging operations.
- i. All parachute allocations will be finalized when the requests are processed through the PRF. Any extra parachutes must be approved by the PRF and the Air Shop prior to issue.
- j. Using units are responsible to supply a parachute shake-out detail to perform shake-out duties. The PRF will not supply personnel to perform these actions. It is recommended to supply one PAX for every 10 parachutes requiring shake-out.
- k. The PRF may remain open to receive air items until the last unit has completed turn-in. When possible, supply representatives should try to turn-in as much of their equipment at one time to facilitate a quick turnaround of maintenance, packing, and returning to the issue inventory by the PRF. PRF personnel will perform quality control checks during shake-out and turn in. Unit action may be required to immediately correct noted deficiencies. All guidance will be received by the Parachute Rigger in charge. Every effort must be made by the using unit to immediately turn in all air items upon the completion of the airborne operation unless prior coordination has been made with the PRF.
- It is the joint responsibility of both the using unit and the higher sustainment unit representative to ensure proper inventory procedures are followed and that accurate results are entered on each DA Form 3161 or specialized unit form. Mistakes or strikeovers should not be accepted, and a new form should be initiated. Using units must ensure they receive proper turn-in credit when completing the turnin process.
- m. All HE air items, other than parachutes, must be turned in to the HDRS upon completion of the airborne operation. Prior to turn-in, all equipment must be cleaned and properly folded for storage. All platforms must be cleaned of debris (mud, sand, oil, etc.). Parachutes will be turned in immediately for shake-out operations unless previously coordinated with the PRF.
- n. If HE does not drop, rigged platforms should be returned to HDRS to be de-rigged and to have all air items accounted for.
- o. Assignment of support personnel. The PRF utilizes the air movement table to assign Parachute Riggers to support airborne operations. MALFOs and Rigger support where parachutes are issued to the Jumpers are allocated appropriately for the size and location of the operation. If a using unit is utilizing USA A/C ensure that proper coordination has occurred between the Air Shop and the PRF, as rotary wing/low performance A/C often do not populate on the air movement table. Verify with the Air Shop that MALFOs and Rigger Check personnel have been allocated for these operations ahead of time.

p. Wet weather protection for air items. It is the using unit's responsibility to take every measure possible to prevent air items from getting unnecessarily wet from receiving equipment from the PRF until turn-in. Sudden rain or heavy dew on the DZ can create unexpected issues and lead to the possible damage of parachute systems. Permission to "jump in the rain" must be verified through the PRF by the Airborne Commander to ensure proper space is allocated in the drying towers and parachute inventory supports operations that will expose them to wet conditions. The following points mitigate risk to parachute inventory:

Do not freeze parachute systems if they become wet.

- q. Actions at the issue point. It is the using unit's responsibility to provide the necessary equipment and/or expendables required to protect the air items from the elements. The PRF will not issue air items unless the using unit is able to provide adequate protective measures for all issued equipment.
- r. If the parachutes are transported in a vehicle loose, ensure that the cargo area is covered and serviceable.
- s. If the parachutes are stored in bins or cages that will be exposed to the elements, such as on an uncovered trailer, ample plastic sheeting is available it must be used (see Appendix F for NSN). Plastic sheeting will be placed both under and over the bins or cages for maximum protection.
- t. Actions at parachute issue point. Issue each Jumper large, plastic bags (orange or another high visibility color is suggested) and ensure that all Jumpers understand appropriate recovery of equipment for the airborne operation. The Airborne Commander or PJ can choose to add this to pre-jump to reinforce the protection of air items. It is the using unit's responsibility to provide the plastic bags to all Jumpers.
- u. Actions on the DZ. The Jumper's parachute and MAWC should be placed in a large plastic bag to protect them from the elements and/or to prevent wet equipment from transferring moisture to dry equipment. The Reserve Parachute should be placed in a separate bag for accountability purposes and to prevent wet canopies from saturating the Reserve Parachute.
- v. Actions during recovery. Make sure recovery vehicles provide adequate protection for the elements. Covers will be waterproof, lead free, and keep the air items dry during transport.
- w. HDRS/PRF may provide plastic for rigged platforms and CDS. Inquire about this during coordination. It is the using unit's responsibility to ensure that all loads remain covered and protected when leaving the HDRS. Prevent wet HE loads by wrapping the energy dissipating material (paperboard honeycomb) in plastic as well as the load. PBHC loses its integrity when wet and can lead to damage to equipment or having the HE missions aborted.

4.13 Off-Post Training Operations

Off-post training requires additional, deliberate planning and coordination to be successful. Units must plan
accordingly to ensure contingencies are addressed due to the general lack of support units have available at
home station. Ensure appropriate Annexes are referenced for each individual CAF unit's requirements to
their area of operations (AO).

2. Off-post operations considerations.

a. Requests. A/C requests must meet the requirements of the Joint Airborne/Air Transportability Training (JA/ATT) system. Aircraft should be requested to deploy and redeploy within the same calendar month to ensure return transportation for USA personnel and equipment. Ensure A/C requests provide full details on abort, airland, off-load requirements, DZ and airfield coordination, and the general concept of the operation. Provide maximum flexibility on deployment/redeployment dates (days, not hours).

Remember that the JA/ATT is not guaranteed transportation. If the scheduled mission cannot be flown, due to maintenance or the like, there will be no means to reschedule a flight on a subsequent day. Plan accordingly for an alternate mode of transportation.

DZs, off-load/abort airfields, and redeployment airfield should all be fully coordinated prior to requesting A/C. Once contracted, A/C requests should not be changed later than 30 days prior to the operation. JA/ATT does not fly "runway to runway" transportation, therefore, logistics support and backhaul will

have to be contracted through the Special Assignment Airlift Mission (SAAM) system (see paragraph (c) in this section for SAAM request procedures).

- c. Load plans must be delivered through the Air Shop to arrive at the USAF prior to the mission. Ensure they specify any explosives or hazardous cargo.
- d. KC-10 load plans are difficult to complete and require an extensive review. Submit load plans NLT 90 days prior to the operation.
- e. KC-10 A/C can only be contracted if there are C-17 Globemaster III or C-5 Galaxies to refuel. The KC-10 will normally pre-position the day prior to mission and will load upon arrival.
- f. Coordinate a location to secure hazardous cargo before loading. Typically referred to as "hot spots", this location is a sufficient distance away from all A/C and infrastructure to prevent damage in the event of a fire/explosion. Hot spots are utilized for both deployment and redeployment to account for unspent ammo and other hazardous cargo.
- g. Coordinate through the Air Shop for material handling equipment (MHE) support for both deployment and redeployment. This should include off-load of aborted HE equipment on platforms.
- h. The USAF will not normally return Safeties, USA equipment, and air items to home station after the deployment or pick-up at their home station to support redeployment. Plan alternate transportation accordingly.

3. DZ/LZ Survey Request Procedures.

- a. Airborne operations conducted off military installations will comply with Department of Defense Instruction (DoDI) 1322.28, *Realistic Military Training (RMT) Off Federal Real Property*. RMT is defined as DoD training conducted off federal property utilizing private or non-federal public property and infrastructure. Due to the higher possibility that RMT can develop into a high visibility event, the Secretary of Defense (SECDEF) and the Joint Staff have issued updated DoD policy guidance that establishes uniformed and approval procedures in the United States and all of its territories, protectorates, and possessions. It is the responsibility of individuals planning, approving, and conducting RMT to be thoroughly familiar with DoD 1322.28 and operate within its confines.
- b. For DZs on civilian property, a written land use agreement must be obtained before the DZ can be approved. DZ survey requests must be submitted to the Air Shop NLT 120 days prior to the airborne operation.
- c. Units requesting off-post training with an airborne assault are required to ensure that the DZ/LZ has been surveyed, is certified, and is current (within 5 years of survey being approved by MAJCOM). S-3 Air Officers/NCOs will examine the Talon Point at https://talonpoint.net/. If the DZ/LZ is not an available assault zone or is not certified as current, a survey request must be submitted NLT 120 prior to the airborne operation.
- d. If a DZ is selected that is not in the ZAR, the unit must complete the survey request in full. Item 3 must state if the unit has obtained permission to conduct the exercise. Any other information relating to the area being used as the DZ/LZ should also be stated in item 3, such as:

- i. Nearest facility for A/C to conduct airland operations (name, title, and phone number of the individual contacted for authority to land).
- ii. Communications capabilities for the FLASH report.
- iii. The written permission from the owner/agency of the land being used must be attached.
- iv. Medical facility for MEDEVAC and hospital support.
- v. Air space clearance from the Federal Aviation Administration (FAA) (see NOTAM) or the local range control agency.
- vi. If facilities are available for storing/repacking air items.
- vii. If facilities are available for shake out operations.
- viii. Historical wind data for time and date of drop.
- ix. Any other pertinent data.
- e. It is highly preferred that a DZSO qualified U.S. Army representative (preferably from the unit submitting the request) accompany the DZC during the surveying of the DZ/LZ. This serves the purpose of both a ground reconnaissance by the unit and a U.S. Army evaluation of the proposed DZ/LZ.
- 4. Procedures of obtaining Special Assignment Airlift Mission (SAAM) Aircraft. Once it is determined that SAAM A/C are required, the unit Mobility Officer will complete a DD Form 1249, Airlift Request SAAM or JCS Exercise with load plans and DD Form 1348-6, Single Line-Item Requisition System Document, DoD (Manual-Long Form). If any changes to the SAAM occur, immediately submit changes to the AMC. If a Wing has already been assigned the mission, telephonic changes are authorized to be made directly. However, it is essential to submit a finalized hard copy to the AMC. Request for SAAM support will be made only for requirements that need special consideration because of the following:
 - a. Number of PAXs.
 - b. Weight or size of cargo.
 - c. Urgency of movement.
 - d. Cargo sensitivity.
 - e. Other justifiable factors, such as airborne operations.
- 5. Joint Airborne/Air Transportability Training (JA/ATT) Programs. JA/ATT programs are designed to provide airborne and proficiency/continuation training in a joint environment. JA/ATT offers the Services an opportunity to jointly develop tactics, knowledge, and procedures as well as increase proficiency and interoperability of airdrop, assault landing, and mobility operations. There are several JA/ATT programs that operate independently, such as Pacific Air Force (PACAF), U.S. Air Forces in Europe (USAFE), the Air National Guard, etc.
 - a. Missions authorized in the JA/ATT are:
 - 1) Airdrop of PAX and equipment.
 - 2) Assault (FLS) landing training.
 - 3) Direct delivery training (C-17 only).

- 4) Static load training (C-17 only).
- 5) Joint development/certification of new equipment or procedures.
- 6) Combat support training (combat off load, engine running on/off-load (ERO), air refueling, and airborne bulk fuel delivery system).
- 7) Other missions as agreed to by the supported Commander and the Commanders of the AMC/Air National Guard/Air Force Reserve Component.
- b. Missions that are specifically not authorized are unilateral USA training using A/C as their primary mode of transportation and point-to-point transportation not involving airdrop or assault airland operations.
- c. Participants in the JA/ATT program include both Active and Reserve/National Guard elements of all Services including all air operations schools and the Test Directorate.
- d. Allocation of airlift A/C are determined by the bi-monthly Joint Management System (JMS) validation of all users, flying Wings/Squadrons, and DZC personnel. In an effort to quantify the value of user tactical events for the USAF to enhance air crew training, point values have been assigned to available training/tactical events (see table 4-12a JA/ATT Point System).Point values are calculated for non-local missions to ensure that training event intensity is maintained per airframe day. The point value of tactical events is totaled and then divided by mission flight hours to calculate points/hour. A minimum of 8.5 points per airframe hour is required for a mission to be considered at the JMS. A higher point value does not necessarily guarantee a higher probability of the mission being accepted.

TACTICAL EVEN	TS	POINTS
PAX Airdrop.		
	SL.	3.0
	C-130 (20 to 40 jumpers).	
	C-17 (40 to 80 jumpers).	
	Mass Tactical	5.0
	C-130 (40 or more jumpers).	
	C-17 (80 or more jumpers).	
	High Altitude Low Opening (HALO)/ High Altitude	3.0
	High Opening (HAHO) (non-small unit tactics).	
Equipment Airdrop.		
· · ·	HE.	
	Single Platform.	5.0
	Sequential Platforms.	6.0
	CDS.	
	One to three bundles.	4.0
	Four to seven bundles.	5.0
	Eight to 40 bundles.	6.0
	Improved CDS (Drop Sonde Required).	5.0
	Dual Row Airdrop System (C-17 only).	
	One to four platforms.	5.0
	Five to eight platforms.	7.0
	Combat Rubber Raiding Craft (CRRC).	5.0
	Joint Precision Airdrop System (JPAD).	
	10K.	5.0
	2K.	5.0
	Low Cost Low Altitude (LCLA).	5.0
Bundle Airdrops.		
	Door bundles.	2.0
Aerial Refueling.		
	Single ship.	2.0
	Formation.	6.0
Engine Running On	/Off Load.	
	PAX.	0.0
	Cargo.	3.0
Assault Landing (C-	130/C-17 only)(If primary mission, minimum of four)	5.0
(Runway IAW Air I	Force Instruction [AFI] 13-217 definition and listed in	
ZAR).		

Direct Delivery Sortie (C-17 only).				
Night Airdrops (TOT) must be a minimum of 40 minutes after end of evening	7.0			
nautical twilight, or before beginning of morning nautical twilight).				
Unfamiliar DZ, Alternate DZ, or Route.				
Minimum of a 30 minute low level route.				
The following are not considered unfamiliar DZs:				
Fort Bragg: All DZs.				
Fort Benning: All DZs.				
Water DZs.				
Multiple DZ/ Route Mission (must be required as part of user tactical scenario	6.0			
and use unfamiliar DZs).				
Off DZ Axis? Random Run-in.	4.0			
Multiple Drop Option (SKE, Adverse Weather Aerial Delivery System	6.0			
[AWADS], and VMC). Note: requires FAA coordination/ approval.				
Defensive System Sortie.	5.0			
Includes intelligence brief/ defensive system sortie				
with ground threat simulator.				
Threat Scenario Sortie.	7.0			
Includes intelligence brief/ defensive sortie with ground threat stimulator.				
Visual Low-Level/ SKE Tactical Ingress.				
Air Transportability Training (C-17 only).				
Joint Airborne Communications Center/ USAF C2 Node. 5.				
Special Operations Static Load Training (C-17 only). 5.0				
Forward Area Refueling Point (FARP) Operations.				
Night Vision Goggles (NVG) Landing/ Take-off (TO). 7.				
Test and Evaluation Support.				

Table 4.13a – JA/ATT Point System

4.14 Data Collection of Airborne Operations Utilizing Digital Media Recording and Capturing Devices

- The requirement of the use of digital media recording devices is the unit Commander's decision, however, when data is collected it will only be used for official use (AAR facilitation, retraining purposes, investigations, etc.). Recording devices should be static mounted (see examples 4-13a-d) to ensure each paratroop door is optimally covered and recorded. Go Pro's may also be worn by static (non-jumping) PAX to achieve similar results. Captured video is classified as "controlled unclassified information" (CUI) and is collected in a joint agreement between the USA and USAF. Any collected footage or material will not be shared to the public or posted on social media unless in an official capacity with Commander approval.
- 2. Methods of collection. The HD Hero Go Pro is authorized to be employed in one of three methods (A/C, head or chest mounted). Jumping Jumpmaster (PJ/AJ) or Jumper wishing to wear or utilize digital media capturing devices must first receive written approval from the first O-6 in their Chain of Command and ensure it is addressed in the DRAW. Media recording devices pose additional risk while performing static line control and can become knocked free and a hazard to lower fellow Jumpers and those on the DZ.

- a. Method one hard mount inside of A/C (most preferred). Ensure camera is mounted inside the A/C so that the view is unobstructed, and the angle is able to capture activity in and around the vicinity of the paratroop door or ramp (wherever the exit is occurring). This must include the ability to monitor the passing of static line control from the Jumper to the Safety through rotating into the paratroop door and entering the first point of performance.
- b. Method two chest mount on Safety (least preferred). Utilized to monitor the activity in the vicinity of the paratroop door. This method does not capture the transfer of static line control from the Jumper to the Safety or the Jumper's exit as well as method one.
- c. Method three head mounted on non-jumping PAX. Usually reserved for Public Affairs Officers and the like. Utilization of this method is usually reserved for other official releases and not necessarily training and AAR purposes. This footage will still be available for examination and evidence in any investigations that may occur.
- 3. **Issuing process.** Units should have procedures and policies in place to ensure that all data and equipment are properly accounted for.
- 4. Placement. Safeties are responsible for the proper placement and operation of all approved digital media recording and capturing devices on their assigned A/C. Since all A/C have multiple ways to have their cargo area configured, it is the responsibility of the Safety to evaluate the layout of their A/C and work with the Loadmaster/Crew Chief to find the best position in order to capture the airborne operation. When working with the Loadmaster/Crew Chief, ensure that the cameras do not interfere with the performance of their duties, and they are aware of their vantage point as to not block the capture of the jump. Outlined below are primary placement sites on common A/C.







Figure 4.14b – Pole Mount (GRH30)

a. **C-130 Series A/C placement.** Mount two cameras on opposing sides aft (behind) of the paratroop doors. The cameras should be place in a location that gives the best view of the entire operation without sacrificing actions taking place in the paratroop doors.



b. **C-17 Globemaster III placement.** Mount two cameras above each intermediate support bracket at the trail edge of the paratroop door. One camera facing each paratroop door.



Figure 4.14d – Mounting in a C-17 Globemaster III

c. **CH-47 Chinook placement.** Mount one camera above the last starboard side portal, focusing the lens towards to ramp of the A/C.



Figure 4.14e – Mounting in a CH-47 Chinook

- 5. **Operation.** Safeties will turn on all devices NLT the 10-minute time advisory. Devices will remain recording until all deployment bags have been retrieved inside the A/C and the paratroop doors/ramp is closed following the pass over the DZ.
- 6. **Turn-in process.** Safeties will return all devices to the DACO and will receive their hand receipt, clearing them of equipment accountability. Before the DACO can be relieved of their duties, they must:
 - a. Properly label all devices with date, A/C type, chalk, lift, and door. This ensures that all data is properly cataloged at the repository.
 - b. Return the devices and associated equipment to receive their hand receipt, clearing them of equipment accountability.
- 7. Data collection. Upon completion of the airborne operation, all devices will be returned to the Air Shop or collecting agency to be downloaded onto a "stand alone" computer. Upon successful transfer of footage, the devices will have their memory erased, inspected for serviceability, and then returned to circulation. Videos should be maintained on the repository for 12 months before deletion if no significant incidents/actions occurred during the operation.

- 8. Wear and use requirements. Video recording devices (Go Pro) will only be used or worn with approval from the units first O-6 Commander and will be addressed in the DRAW. The Airborne Commander is overall responsible. Even with prior approval, the Airborne Commander, Primary Jumpmaster, or USAF crew may deny the use of recording devices at any time before or during the operation. The following must occur to facilitate the use of any media capturing device placed on a Jumper:
 - a. The Jumper wearing the device must volunteer.
 - b. The Jumper must be current and an advanced rated JM.
 - c. The Jumper must be manifested as the number 1 Jumper on either paratroop door. This ensures the device will not come in contact with the Universal Static Line Modified.
 - d. The PAO will provide a military procured recording device with all associated equipment (batteries, mount (only authorized to be mounted on the Jumper's helmet), casing, etc.) to the Jumper NLT manifest. The PAO is responsible for the following:
 - i. Assist the Jumper is securing the camera to the Jumper's approved helmet (securing with a lanyard [dummy cording] the device is not authorized).
 - ii. Instruct the Jumper on how to operate the quick disconnect for the mount in case of an emergency.
 - iii. Brief the Jumper on the proper operation of the device as well as how and where to turn the device in upon completion of the airborne operation.
 - e. The Jumper must conduct SAT with the camera attached to their helmet and demonstrate proficiency in performing emergency actions to the JM team, i.e., being able to activate the quick disconnect.
 - f. The Jumper must begin recording NLT the 10-minute time advisory.
 - g. The Jumper must resize their approved helmet to ensure that the additional weight of the device does not cause the helmet to become loose fitting on their head.
 - h. Jumper safety and situational awareness is paramount during any airborne operation. It will not be the Jumper's responsibility to ensure that the quality or special aspect of footage are covered and captured. The Jumper will go through all actions in the A/C and all five points of performance as if they were not wearing a device.
 - i. After landing, the Jumper will detach the device and stop recording. The device will be secured and turned over to the issuing party as instructed.

No Paratrooper is authorized to capture or record actions while under canopy for their own personal use. Cell phones and other unapproved recording devices are unauthorized and prevent the Jumper from maintaining canopy control and can become a hazard if it is dropped.

If an ETP was signed and use of a digital recording device was addressed on the DRAW, the only Jumpers that will be allowed to use a head mounted device will be manifested as a number 1 Jumper AND be an advanced rated (Senior or Master) Jumpmaster to prevent interference with the Universal Static Line Modified and ensure proficiency of the Jumper.

4.15 Military to Military Cooperation

- 1. Multinational Force Interoperability (MFI) operations are initiated at all levels of the DoD and Government agencies. The Department of State provides oversight to all Security Cooperation operations; however, these operations are conducted and coordinated through theater and geographical component command areas of responsibility (AOR). MFI operations include any initiative, forum, agreement, or operation that improves the U.S. Army's ability to operate effectively as a member or leader of an alliance or coalition across the full spectrum of military operation. The scope of MFI training or instruction to foreign forces is primarily for promoting interoperability, safety, and/or familiarization with U.S. military forces and equipment. The approval process for conducting MFI will differ based on the level and scope of training conducted between the U.S. and the Partner Nation.
- 2. The Military Personnel Exchange Program (MPEP) is designed to have Partner Nation personnel assigned to a billet and are required to jump according to the Paid Parachutist Position they are filling. Unit integration and reception programs will mirror those used for U.S. personnel. This will include NET (if necessary), BAR, and to follow the unit's progression policy.
- Reference Annex I, Multinational Force Interoperability, of the CAASOP for additional context on the scope of U.S. Security Cooperation efforts and instruction on foreign jump wing exchanges and MFI equipment/rigging procedures.

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• Chapter 5 – Preparation, Out-load, and Reception of Equipment.

5.1 Preparation of Airland Equipment, Heavy Equipment, and Containerized Delivery System Platforms

- 1. The Joint Inspection (JI) for airland operations and the Joint Airdrop Inspection (JAI) for airdrop operations are critical procedures which must be planned for and resourced in order to successfully transport vehicles and equipment using airlift assets. The Airborne Commander may designate the successful completion of the JI/JAI as the decisive point for the out-load phase of a complex airborne or airland operation. The out-load plans, including the number of items of rolling stock and equipment requiring inspection, timelines, and the concept of support must be communicated to the supporting aerial port personnel. The best way to prevent potential frustrated cargo and friction points between the aerial port, USAF personnel, and USA equipment is to conduct joint planning with an emphasis on maintaining consistent communication channels. This section will enumerate the requirements for a successful execution of JIs and JAIs. Unit Annexes will determine the particular methods and structures that units use to plan, coordinate, and resource out-load of their vehicles and equipment at the aerial port.
- Requirements for the Joint Inspection (JI) of airland equipment. JI concerns the validation of item(s) of rolling stock or containers to be transported on USAF platforms to an aerial port of debarkation (APoD). The JI is conducted at the aerial port of embarkation (APoE) between the owning USA unit and aerial port PAX, not USAF aircrew members, or another USAF organization that is providing aerial port services, such as Contingency Response Units.
- 3. Units must prepare and provide all dunnage and shoring required for the aerial transportation of vehicles, equipment, and palletized items. The information on the shoring required for a particular piece of equipment can be found in its specific Air Transport Test Loading Activity (ATTLA) letter. Units are also required to provide all chains and devices required for securing cargo on 463L pallets.

463L pallets must never be placed flat on the ground or on sandbags!

- a. Units must resource DD Form 1387, *Military Shipping Labels* or Logistic Marking and Recording Systems (LOG-MAR) for their vehicles. At least three copies of either document must be present at the time of the beginning of JI. Sensitive cargo or classified items must be marked with DD Form 1387-2, *Special Handling Data/Certification* that require special protective services or handling.
- b. Units must prepare Shipper's Declaration for Dangerous Goods (SDDG) for each individual item of equipment containing hazardous material (HAZMAT). SDDGs will be prepared IAW TM 38-250/AFMAN 24-604, Preparing Hazardous Materials for Military Air Shipments.
- c. Prepare load for JI as specified in ATTLA, unit appropriate Annex, or Defense Transportation Regulation (DTR) 4500.9-R, Part III, *Mobility*. The following are general TTPs to implement for airland equipment to ensure a successful JI:
 - i. Vehicles and self-propelled units will not exceed one-half tank of fuel unless a Chapter 3 contingency/strategic move IAW TM 38-250 is approved. If a Chapter 3 move is approved, fuel tanks will not exceed three-quarters tank of fuel.
 - ii. Wheeled, engine-powered, support equipment (SE) will be drained to the maximum extent possible. If a Chapter 3 move is authorized fuel levels will not exceed one-half tank of fuel, regardless of the unit's position on the A/C. Ensure all fuel caps are properly installed. For closed fuel systems, loosen caps to allow for pressure equalization for altitude changes.

Plan for defueling operations for all equipment to meet requirements. JI will fail if equipment is over fueled.

- d. Ensure all equipment is prepared IAW DTR 4500.9-R, Part III. A preventative maintenance checks and services (PMCS) must be completed prior to arrival to the aerial port and all basic issue items (BII) and equipment must be properly secured to the vehicle. Bring extra CGU-1Bs to facilitate load changes.
- e. Additional planning is required for any load that contains ammunition. Typically, only certain areas of an airfield are certified to hold or stage hazardous materials over a certain classification. These areas are referred to as "hot pads", "HAZ pads", or "hot spots".
 - i. Prior planning and good communication with the aerial port will enable the out-loading unit to develop a successful staging and movement plan at the APoE for vehicles and containers containing ammo.
 - ii. All containers and vehicles containing ammo must be appropriately placarded IAW with hazard classification.
 - DD Form 2890, DoD Multimodal Dangerous Goods Declaration will indicate net explosive weight (NEW), withdrawal distance, and firefighting time. Owning unit must have at least three copies for each container or vehicle.
 - iv. Ammunition carrying vehicles and containers must be properly certified for air movement utilizing the Joint Hazard Classification System (JHCS) approval documentation. Ensure at least three copies of this documentation accompany each load.
- f. Ensure that all hazardous cargo is easily accessible, whether it is palletized on a 463L pallet, in an approved container, or as a secondary load on a vehicle. Inaccessible hazardous materials will cause and entire load to become frustrated cargo.
- g. Requirements for the Joint Airdrop Inspection (JAI) for airborne operations. JAI concerns the validation of item(s) of rolling stock or containers to be transported on USAF platforms and dropped via airdrop operations to a designated DZ.

Requirements for JI/JAI are identical. Refer to "Requirements for the Joint Inspection (JI) of airland equipment" in paragraph a. in this section.

5.2 Outload of Airland Equipment, Heavy Equipment, and Containerized Delivery System Platforms

- 1. Units should organize, plan, and execute the out-load of vehicles, airdrop equipment, and PAX according to the procedures included in their appropriate unit Annex. However, there are several regulatory and general principles of executing out-load operations which should be followed as outlined in this section.
- 2. Movement to DAF, inspection, and manifesting. The transportation of airland and airdrop items to the DAF must be scheduled with the aerial port. This is especially important if equipment contains ammunition or other HAZMAT that requires the utilization of "hot spots".

3. Execution of the Jl.

a. **Pre-inspections.** The unit should organize vehicles and equipment into chalks that correspond to their load plans, manifests and their specific unit Annex of the CAASOP. After equipment is organized into chalk order, pre-inspections should be executed. Any deficiencies noted during pre-inspections must be corrected before the equipment is weighed.

- b. After the pre-inspection, the unit must weigh all equipment and mark them IAW DTR 4500.9-R Part III. The unit must then finalize all load plans with the actual scale weights and dimensions noted during weight and add the appropriate transportation control number (TCN).
- c. Once all documentation is finalized, the unit will provide the documents to the aerial port for review. Aerial port PAX will review all documentation to ensure it is completed fully and to standard.
- d. Once documentation has been inspected, aerial port PAX and the unit representative will conduct an inspection of all completed chalks utilizing the DD Form 2133, *Joint Airlift Inspection Record*. All discrepancies must be corrected before any loads are accepted for transport.
- e. Ensure that all HAZMAT is easily accessible, regardless of what type of container it is being shipped in.
- f. Once JI is complete, the unit continues to maintain responsibility for the security of all loads at the aerial port. Units will maintain drivers with their assigned vehicles if transporting sensitive items, prime movers for any towed loads, and guards/escorts for any ammunition/"hot" cargo until loaded.
- g. Units will not modify loads in any aspect during or after the JI. No changes to loads can be made after the weighing and marking of equipment nor will secondary loads be added, subtracted, or rearranged. If the unit must make changes, the JI process will begin after the changes were made from the beginning of the process. Poor planning and making last minute changes can result in significant delays at the DAF.
- h. After JI, the equipment is placed on the "Ready Line". All equipment will remain on the "Ready Line" until it is called forward by the USAF for loading procedures. Again, equipment cannot be modified or tamped with in any fashion once placed on the "Ready Line". Drivers must remain with their vehicles or a designated area until all vehicles and equipment have been fully loaded on the A/C.

Tampering with equipment, which includes adding or taking away from equipment or HAZMAT after it has been inspected jeopardizes the safety of the deploying force, A/C, and air crew and will lead to your cargo becoming frustrated and delay the out-load.

4. Execution of the JAI.

- a. Once the rigging and weighing of the airdrop platforms are complete, the unit will finalize the load plans in the Integrated Computerized Deployment System (ICODES) with accurate weights, dimensions, and the TCN from the military shipping label (MSL).
- b. Once load plans are finalized, supply the USAF Loadmasters and the Parachute Riggers to begin the JAI process. This process occurs in the HDRS.
- c. The JAI ends once the chalk is loaded and properly secured on the delivering A/C.

5.3 Receiving Vehicles and Equipment at the Aerial Port of Debarkation/Seized Airfield

1. The Airborne Commander must plan for a joint team of USA and USAF personnel capable of performing APoD operations for equipment and PAX on a seized airfield and expand the airbase. The capabilities of this airbase will drive the maximum on ground (MoG) (see paragraph 2.14 (b)) and overall speed of the airland sequence, as well as available resources on the ground. Freeing up usable space and infrastructure is key for increasing combat power on the ground. The teams formed to accomplish increasing capabilities are referred to as the Arrival Airfield Control Group (AACG) or the Arrival/Departure Airfield Control Group (A/DACG). These groups will initiate the broadening and expansion of airfield capabilities until relieved by

the USAF CRF. USA Planners must understand the CRF's capabilities and augment where necessary. Pl Planners should reference Army Training Publication (ATP) 3-17.2, *Multi-Service Tactics, Techniques, and procedures for Airfield Opening*.

Airland operations concentrate large quantities of PAX and equipment in one spot. This is a vulnerable and lucrative target for enemy forces. The offloading, assembly, and dispersal of arriving PAX and equipment must be conducted smoothly and efficiently.

- a. AACGs are led by a field grade Officer or higher. They must be robustly staffed in order to successfully and rapidly off-load, assemble, and disperse PAX and equipment. Subject matter experts (SME) from the USA must be paired with their counterparts in the USAF to ensure cohesion and reduce friction points (AMO with AMLO, STS with Pathfinders and Engineer leads, etc.).
- b. Prior coordination between USA and USAF is necessary prior to organizing and laying out an airfield IOT ensure the layout coincides with follow on CRF expectations. This will ensure transitioning control of the airfield from USA to USAF occurs as smoothly as possible. Note: Example 5.3a – Sample Airfield Organization Diagram, for a generic layout of an optimized airfield



Example 5.3a – Sample Airfield Organization Diagram

c. Each landing A/C should have a Chalk Leader who is responsible for distributing copies of manifests and load plans to the AACG or CRF upon arrival and assists with the orderly off-load and assembly of vehicles, equipment, and PAX.

- d. If the unit plans to transport rotary wing or small fixed wing assets during the airland sequence, ensure that elements of the Brigade Aviation Element (BAE), Unmanned Aerial Vehicle (UAV) Command and Control (C2), and a Forward Arming and Refueling Point (FARP) are established prior to their arrival.
- e. If the unit plans on sending cargo secured to 463L pallets on initial lifts, forklifts/MHE must be manifested and arrive prior to the 463L cargo. If not, pallets will have to be off-loaded by hand causing a bottle neck effect on the airfield.
- f. Off-load teams should be stationed in close proximity to the off-load sites (but outside of prop/jet wash effects) and should take orders only from the AACG. Off-load teams should always wear a helmet, goggles, reflective belt (unless threat conditions warrant otherwise), gloves, and hearing protection.
- g. Joint communication within the AACG is critical and must be coordinated and rehearsed. The AACG must be prepared to provide internal communication assets to CRF unless all systems are synchronized prior to deployment.
- h. Additional planning load considerations are as follows:
 - i. The Airborne Commander should consider placing a recovery vehicle with a winch, a maintenance contact team, and a C2 vehicle on the first airland A/C. The recovery vehicle is essential to off-loading disabled vehicles and moving them from taxiways/ramps and moving them to assembly areas to prevent congestion on the airfield.
 - ii. For airland assaults, units should be cross loaded in a manner that enables them to be able to fight immediately upon exiting the ramp of the A/C. For example: complete platoons might be loaded on a single A/C while the Company would cross-load platoons and Company Leaders across multiple A/C. Vehicles and weapons systems will always be loaded on the same A/C as their operators.

Properly schedule the arrival of air assets to prevent USAF A/C bottle necking on the airfield or delay the rapid off-loading of airland equipment and PAX. Ensure aviation PAX and the FARP are established before rotary wing assets arrive. Aviation personnel will require additional manpower to safely and quickly download their equipment. Be prepared to assist as necessary!

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• Chapter 6 – Execution of the Airborne Timeline

The Airborne Commander is responsible for oversight and proper execution of the airborne timeline. The PJs work under the authority of the Airborne Commander and assist in ensuring that station time (ST) is made. The contents of this chapter will outline the areas of responsibility for all parties, from the notification of duties at the S-3 air brief to the completion of 100% accountability of all PAX and equipment.

6.1 General Rules

- Listed here are general rules that should be followed in all airborne operations. Although the CAASOP is generally permissive towards exceptions to policy (ETP), the rules outlined in this chapter are tried and true TTPs which should be followed under most circumstances. Deviation from procedures listed in this chapter will be signed and accepted by the first O-6 in the Chain of Command (unless authority has been delegated to an O-5 per specific unit Annex) and addressed in the DRAW.
- 2. Selecting the JM team. Table 6.1a outlines the minimum requirements for the JM team for each highperformance A/C. The practice of employing additional JMs to maintain currency and proficiency of a unit's JM population is permissible however, do not compromise unit proficiency at the expense of JMs pulling extra duties (i.e., assault forces must exercise mass exiting techniques, etc.)

Type of Duty	C-130 Hercules	C-130J-30 Super Hercules	C-17 Globemaster III	C-27J Spartan	
PJ	1	1	1	1	
AJ	1	1	1	1	
Safety	1 per paratroop door	1 per paratroop door	1 per paratroop door	1 per paratroop door	

Table 6.1a – Minimum JM Teams per High Performance A/C

- a. In order to be selected for and conduct the duties of a JM, the personnel must be current and qualified Jumpers and meet all requirements listed in paragraph 2.7 Jumpmaster.
- b. For all tactical operations, only one PJ is authorized per A/C.
- c. For proficiency/JM currency lines, one of two options exist:
 - i. Maintain one PJ at one paratroop door and rotate multiple AJs at the opposite paratroop door.
 - ii. Maintain one static PJ, usually positioned on the ramp or another advantageous position to monitor both paratroop doors and have both paratroop doors managed by AJs.
- 3. Evaluation of the JM Team. Prior to any airborne operation, the JM team must conduct full rehearsals of all duties and periods of instruction (POI) they will be delivering to ensure cohesion as a team, gauge proficiency, and give the Airborne Commander a decision point to replace a member or require additional training to increase a member of the team's proficiency before conducting their duties. Approved helmets in jumpable configuration will be worn during all rehearsals. It is the PJ that delegates ownership of specific training to the members of their team. Being assigned as a specific member of the JM team does not dictate responsibility to a specific training event (i.e., the PJ always gives pre-jump). Areas that must be covered are, but are not limited to:

Only the Airborne Commander, unit Commanders, or designated Master Jumpmasters (MJM) have the authority to relieve or suspend a member of the Jumpmaster Team. Although the PJ is overall responsible, they do not have the authority to relieve a member of their team.

- a. Static line control, Exiting procedures, Red light procedures, Jump refusals, Towed Jumper procedures, Emergency procedures (SERJTE). This rehearsal should be conducted not only with the main instructor, but the assistant instructors as well conducting the demonstration. Consider adding to the minimum instruction by tailoring the training to the airborne operation (i.e. detailed instructions on how to raise and secure seats on a C-130 series A/C or properly staggering port and starboard side Jumpers on a CH-47 Chinook).
- b. Practical Work in the Aircraft (PWAC). All JMs will show proficiency in their abilities to perform their assigned duty while in flight. This includes, but is not limited to the following:
 - i. Safeties describing the seating arrangement.
 - ii. If applicable, have the number one Jumpers and replica size and weight door bundles present.
 - iii. Handling and controlling of USLMs.
 - iv. Giving all time warnings and jump commands.
 - v. Proper execution of the correct paratroop door checks for the A/C being utilized.
 - vi. Covering exiting procedures as planned and contingency pass options (door down scenario, mass exit, having to utilize both anchor line cables if not planned for, etc.).
 - vii. Discussing variables for a unified message to the Jumpers (actions for HPTLL activating, how to stow USLM if the static line slack retainer band (SLSRB) breaks, executing red light procedures, etc.).
- c. Pre-jump. Regardless, if pre-jump is read or recited from memory, the JM who was designated to conduct pre-jump training will demonstrate proficiency in delivering the training.

The Airborne Commander, unit Commanders, or designated MJMs are encouraged to quiz JM teams to ensure they have a firm understanding of the entire scope of their duties and are able to react appropriately to issues and emergencies during the airborne operation.

- 4. **Relieving JMs for their assigned duties.** Upon evaluating the JM team during rehearsals or during the airborne operation, the Airborne Commander, unit Commander, or designated MJMs may suspend any member of the JM team for the following:
 - a. Conducting unsafe actions that would result in the loss of life, limb, or eyesight.
 - b. If the JM is observed performing outside of standard and a non life-threatening incident occurs during an airborne operation (red light exit, off DZ strike, failure to follow protocols, failure to find deficiencies during JMPI/TI of equipment, etc.)

- 5. **Remediating a JM.** The appropriate level Commander or their delegate will develop a training plan to return the JM to standard. This can include one on one training with the unit's MJM, sending the JM to JMR, initiate punitive action under the Uniformed Code of Military Justice, etc.
- 6. **Receiving credit for completion of JM duties.** In order to receive credit on the DA Form 1307, a JM must conduct the following while maintaining JM team integrity for the entire airborne operation:
 - a. PJ Be assigned as the PJ, conduct SAT with their chalk, and release one parachute suspended object successfully or control the flow of Jumpers as they exit (over the ramp operations) or lead their Jumpers in exiting during over the ramp operations.
 - b. AJ Be assigned as an AJ, conduct SAT with their chalk, and release one parachute suspended object successfully.
 - c. Safety Be assigned as a Safety, conduct SAT with their chalk, and control at least one USLM of a parachute suspended object or control Jumpers flow as they exit (over the ramp operations).
 - d. ADACO Be assigned as an ADACO and perform all duties, as delegated by the DACO, in paragraph 2.9 for a successful airborne operation.
 - e. DACO Be assigned as the DACO and perform all duties in paragraph 2.9 for a successful airborne operation.
 - f. ADZSO/ADZSTL Be assigned as an ADZDO/ADZSTL and perform all duties, as delegated by the DZSO/DZSTL, in paragraph 2.10 for a successful airborne operation.
 - g. DZSO/DZSTL Be assigned as the DZSO/DZSTL and perform all duties in paragraph 2.10 for a successful airborne operation.

To be considered a successful airborne operation at least 90% of the parachute suspended objects must land on the surveyed DZ.

- 7. **Peacetime training operations.** To mitigate risk and ensure proper execution of assigned duties, the following rules should be utilized:
 - i. A JM should be the last Jumper on every pass.
 - ii. The PJ should be the last Jumper on the last pass. Exceptions include over the ramp operations or when the PJ is conducting static JM duties on a UH-60/UH-1.
 - iii. Safeties will remain onboard the A/C upon exiting all parachute suspended objects or the cancellation of the airborne operation and return to DAF. At no time will a Safety be a Jumper for peacetime operations.

6.2 Examples of Airborne Timelines

 Manageable and practical airborne timelines are listed in this paragraph. This is based on having the appropriate amount of qualified JMs to assist with JMPI and transportation taking 30 minutes. Unit level Air POCs have to take limiting factors and logistics into consideration when creating airborne timeline. Ensure that excessive amounts of time or "padding" of the timeline does not occur.

ACTIVITY	TIME MINUS
Station Time (ST)	Troops seated on A/C.
Load Time (LT)	ST (-) 15 minutes
JMPI	ST (-) 50 minutes
Donning parachute systems/equipment	NLT ST (-) one hour
Inspection of A/C	ST (-) one hour
Parachute issue	ST (-) one hour and 15 minutes
Mock door training	ST (-) two hours
Transport from unit area to DAF	ST (-) two hours and 30 minutes
Pre-jump	ST (-) three hours and 15 minutes
Manifest call/technical inspection of equipment	ST (-) three hours and 30 minutes
JM team rehearsal	ST (-) three hours and 45 minutes

Example 6.2a – Airborne Timeline with SAT Conducted After Manifest Call

ACTIVITY	TIME MINUS
ST	Troops seated on A/C
LT	ST (-) 15 minutes
JMPI	ST (-) 50 minutes
Donning parachute systems/equipment	NLT ST (-) one hour
Inspection of A/C	ST (-) one hour
Parachute issue	ST (-) one hour and 15 minutes
Transport from unit area to DAF	ST (-) one hour and 45 minutes
Manifest call/technical inspection of equipment	ST (-) two hours
JM team rehearsal	ST (-) two hours and 15 minutes

Example 6.2b – Airborne Timeline with SAT Completed Prior to Manifest Call

6.3 The S-3 Air Brief

The S-3 Air Brief is a formal synchronization meeting between all key PAX prior to conducting any airborne operation. It is chaired by the Airborne Commander and presented by an S-3 Air representative. It is critical that all vital information is disseminated to all key personnel to ensure a shared understanding and to eliminate friction points that may occur. Ensure a roll call is conducted to ensure all key PAX and JMs are present. It is usually at the S-3 Air Brief that all Jumpmasters and key personnel meet and assume their roles. It is the responsibility of the S-3 Air Shop to ensure all key PAX are aware of the time and location of the brief (see Appendix D-4 for the minimum, required information to be briefed).

2. Required information to be discussed at the S-3 Air Brief.

- a. Marshalling plan. All Jumpers must have all their equipment properly rigged (authorized, jumpable packs, any special items of equipment, helmets in jumpable configuration, etc.) and inspected prior to manifest call.
- b. Place and location for all JM teams for JM rehearsals.
- c. Time and location to inspect equipment and uniforms. Note: if equipment is decided to be inspected at manifest call, corrections will have very little time to occur and filling seats on the A/C may become an issue.
- d. Time and place of manifest call. Ensure there is a global understanding of the bump plan and scratch criteria.
- e. Time and location for pre-jump training to include a NLT finish time.
- f. Transportation plan.
- g. Parachute issue plan.
- h. Weather decision time. Include projected forecast for both DAF and DZ.
- i. Load time.
- j. Station time.
- k. Take-off time.
- I. P-hour.
- m. Air movement plan including time of flights, formation, route, one minute and 30 second reference points, direction of flight over DZ, drop altitude, location of PPI, racetracks/number of passes, seconds of "green light", and emergency call signs/frequencies.
- n. Airdrop plan. This information includes an overall review of the DZ, key areas on the DZ (turn in points, FLA placement, AA, etc.), delivery sequence and number/type of loads (PAX per type of parachute, door bundles, HE, CDS, HALO/HAHO).
- o. Airland plan. Ensure all PAX understand the control of active flight landing strips (FLS), crossing plan, and safety measures (rapid movement off the FLS upon landing, securing canopies quickly, marking of road guards, etc.)
- p. Mission and the ground tactical plan. Cover air item turn-in, assembly plan, marking casualties, tree extraction, and communications on the DZ.
- q. Anything else pertinent to the airborne mission as dictated by the unit or Airborne Commander.
- 3. **JM packets.** These are issued to all key PAX during the S-3 Air Brief. JM packets are an extension of the air letter and contains all information pertinent to the operation in a concise format. Individual unit SOP will dictate the content of the JM packet (see Appendix D-2 for an example of a JM packet). Consider the following items for JM packets:
 - a. JM packet summary checklist. Include a copy of the air letter and a backwards planning tool if in-flight rigging is planned (see Chapter 9).
 - b. Chalk manifest. Executed during the N-hour sequence or per unit SOP, ensure that all PJs receive a copy in their packets.
 - c. Key PAX matrix. Fill in all names and ranks of the Jumpers. Attempt to identify the in-flight Medics. Special attachments could include very important persons (VIP), Public Affairs Officer (PAO), observers (Jumpmaster Instructor's, MJMs) etc.
 - d. A/C load plan. Depict where vehicles and equipment will be loaded by chalk. Maintain a consolidated roster of equipment to be dropped on each DZ and particular HEPI.
 - e. Landing/scatter plan. This is a graphic depiction of where units/PAX are to land on the DZ. Ensure to include direction of flight and an arrow pointing north for orientation.
 - f. Assembly plan. This is another graphic depiction of the DZ with unit assembly aids and AAs clearly marked. Ensure the graphic is oriented to north and reinforce unit SOPs for day or night assembly aids that pertain to the airborne operation.
 - g. Abort instructions for Sortie Commanders/JMs for both in the air and on the ground.
 - h. Map of the surrounding area as it pertains to the airborne operation.

i. Bump plan. Designates the marking and actions to bump non-essential PAX off an A/C in the event of an A/C cancelation/down.

6.4 Duties of the JM Team in the Unit Area

- 1. JM duties are conducted in three key locations: the unit area, the DAF, and in-flight. Depending on the airborne timeline, many, if not all, duties that are designated to be done in the unit area can also be conducted at the DAF. The training plan should be briefed during the S-3 Air Brief.
- 2. Inspection of the safety kit. The PJ will assign one of their Safeties to supply a fully stocked safety kit. The designated Safety will ensure that there are an adequate amount of air items (expendable and non-expendable) to accomplish the mission. An appropriate amount of overage should be able to cover 3-5% of the Jumpers in the chalk. These items are utilized to ensure Jumpers are equipped to safely conduct the airborne operation and ensure the proper donning and wearing of the parachute systems and hanging of combat equipment. The following items consist of a well-equipped safety kit (for common NSNs for air items, reference Appendix K):

It is the responsibility of the Jumper and the Jumper's unit to provide the necessary serviceable air items and expendables to execute airborne operations. The purpose of the JM safety kit is to augment the needs of Jumpers and JMs.

Items	# Requested	Quantity of Issue	NSN/Purchase
Extra Helmet Components			
Suspension Pads (Full Set) ACH/ECH	2	EA	8470-01-546-9420
			SM: 8415-01-671-9734
Suspension Pads (Full Set) IHPS			MD/LG: 8415-01-671-9671
	2	EA	XLG: 8415-01-671-9600
			SM/MD: 8470-01-672-0777
Chinstrap Assemblies (IHPS) X-Back	2	EA	LG/XL: 8470-01-672-0796
Chinstrap Assemblies (ACH/ECH)	2	EA	8470-01-599-3851
Hook Disks	20	Roll (450)	8470-01-506-6742
Air Items for CE			
HSPR (Complete)	2	EA	1670-01-227-7992
IHSPR (Complete)	2	EA	1670-01-682-5119
HPT Lowering Line	2	EA	1670-01-067-6838
Expendable Items			
100 MPH Tape	1 Roll	Roll (100yd)	7510-00-266-5016
550 Cord	1 Roll	Roll (500yd)	4020-00-246-0688
1/4 IN Cotton Webbing	1 Roll	Roll (500yd)	8305-00-268-2411
Shoe Tags	300	BX (1,000)	8135-00-292-2354
Masking Tape	2 Roll	Roll (100yd)	7510-00-685-4963
Bubble Wrap	1 Roll	Roll	8135-01-381-6525
Retainer Bands			
2 IN Heavy Duty	2 Box	BX (200)	1670-01-323-9900
TYPE 64	2 Box	BX (200)	7510-00-243-3435
2 IN Regular	2 Box	BX (200)	1670-00-568-0323
Tools			
Flat Tip Screwdriver	1	EA	5120-01-429-6451
Phillips Tip Screwdriver	1	EA	5120-00-243-8913
			5120-00-223-7397
Pliers	1	EA	Gerber: 5110-01-346-5341
Scissor	1	BX (6)	5110-01-241-4373
Additional Items			
CAASOP and Unit Annex	1 Сору	EA	USAAS DEPS Page
AUL	1 Сору	EA	USAAS DEPS Page
GTA Card (Aicraft Inspection Sheet)	2 GTA's	EA	USAAS DEPS Page
MJM Updates	As Needed	EA	USAAS DEPS Page
Ear Plugs	100	BX (200)	6515-00-137-6345
Motion Sickness Bags	30	BX (1000)	8105-00-835-7212
Trash Bags	10	BX (100)	8105-01-386-2410
Red ChemLights	20	BX (10)	6260-01-178-5559
Green Chemlights	20	BX (10)	6260-01-074-4229
Water Bottles	6	EA	GPC

Table 6.4a – Jumpmaster Safety Kit Contents, Quantities, and NSN

3. **JM team rehearsals.** During the S-3 Air Brief the time and location for rehearsals will be finalized. All rehearsals will be complete NLT manifest call. Rehearsals will be under the direct supervision of the Airborne Commander or their representative (S-3 Air Officer/NCO or MJM on appointment orders) to provide oversight and correct any deficiencies for all members of the JM team. The only time that JM rehearsals may not be conducted is during a restrictive timeline, such as an EDRE or real-world deployment. In such cases, the Airborne Commander will provide thorough guidance and instructions during the S-3 Air Brief to

enable each JM team's effectiveness. All members of the JM team MUST be present at the designated time and location with their helmet in jumpable configuration to conduct the following:

- a. The JM team will rehearse all actions in the A/C and identify any friction points. If, at any time, the paratroop door that the PJ controls changes, all actions in the A/C will be rehearsed fully again. Conduct this training in the same manner that would be conducted in the air. Ensure door bundles and number one Jumpers are present and special items of equipment are discussed and their proper hanging is understood. It must be the priority for the entire JM team to ensure multiple passes, multiple AJs, mass exiting, down door procedures, identifying reference points, etc. are all covered and there are no questions on procedures once leaving rehearsals.
- b. Rehearse SERJTE from start to finish. Ensure assistant JMs go through the visual demonstration process to enhance the JM delivering the period of instruction (POI).
- c. Rehearse all contingencies and emergency actions ("red light" and towed Jumper procedures, broken static line stows/slack retainer bands, activated HPTLL, activated T-11 Reserve parachute on board the A/C, etc.).
- d. Rehearse pre-jump to ensure delivery is concise and key points are emphasized.
- e. Once rehearsals are complete, the PJ and S-3 Air representative/MJM will fully reassess the JM team. Any issues that cannot be rectified must be immediately brought to the attention of the Airborne Commander for resolution.
- f. If applicable talk through the procedures for R.A.C.E., late hang and TI, TI and hang, and/or any known items that will require special rigging or JMPI procedures.
- 4. **Manifest call.** At the time and location dictated by the Airborne Commander, the JM team assembles and briefs the chalk. The following will be done during manifest call:
 - a. Safeties will organize the chalk IAW the Airborne Commander's tactical cross load and begin inspecting Jumpers' helmets, ID cards, ID tags, leather palmed gloves, and CE.
 - i. During the inspection, talk to the Jumpers and check their level of experience. Assign experienced Jumpers as Airborne Buddies to novice Jumpers.
 - ii. Ensure Jumpers are experienced enough to participate in the Airborne operation IAW progression policies, identify those who could possibly violate progression rules if the timeline shifts from day to night.
 - iii. All CE will be properly rigged prior to manifest. It is the Jumper's 1st line Leader's responsibility to ensure all CE is rigged appropriately IAW Chapter 12 and approved on the USAAAS AUL. During the TI of the Jumper's equipment, if deficiencies are found, instruct the Jumper on the corrections and have them return for re-inspection.

The PJ has the authority to scratch any Jumper who presents a hazard to themselves or other Jumpers.

If deficiencies in CE cannot be corrected or the Jumper has unauthorized equipment, the PJ can scratch the Jumper's CE or the Jumper from manifest.

b. Once the DA Form 1306 is filled, verified and signed by the PJ, ensure an adequate number of copies are created. Personnel that will require copies are Parachute NCOIC (multiple if running multiple turn-in points), DACO, all PJs and AJs, S-3 Air POCs, and anyone else designated by the Airborne Commander and/or PJ.

Once a Jumper has been manifested at manifest call, they are committed to the airborne operation. If the Jumper decides they do not want to jump after this point they will be considered a jump refusal and must be turned over to their unit for appropriate administrative action.

- c. It is highly suggested that Jumpers are marked by their chalk position and paratroop door (R-1, L-5) with a sticker or by unit SOP. Ensure every Jumper can identify the Jumper in front and behind of them as well. This greatly reduces confusion during SAT and maintains the Airborne Commander's tactical cross load. The larger the airborne operation, the more important marking PAX becomes. Below is a way to mark Jumpers:
 - i. RED JM team.
 - ii. YELLOW Current and qualified JMs in the chalk.
 - iii. GREEN Key PAX.
 - iv. WHITE Bump PAX.
 - v. RED CROSS Medics.
- d. The JM team will introduce themselves after all Jumpers have been manifested, inspected, and organized and provide a quick outline of SAT, the airborne timeline and any pertinent info that will not be covered in the Marshalling Area Control Officer (MACO) brief.
- 5. Marshalling Area Control Officer (MACO) brief. The MACO brief must be given to all Jumpers prior to donning the parachute system. This can be given separately to each chalk or to the entire line of Jumpers as a mass group. The MACO brief must be given by an Airborne Leader such as the Airborne Commander, S-3 Air POC, or member of the JM team with a complete understanding of the concept of operation and can answer any questions the Jumpers may have. Graphical aids should be used to orient Jumpers and emphasize key points (overhead imagery of DZ, sand tables, replicas of assembly aids, etc.) The MACO brief must include:
 - a. Introduce all key PAX (Airborne Commander, unit Commanders, the JM team by position, detail NCOICs, etc.).
 - b. Concept of operation (provide a brief description of the overall operation and mission statement).
 - c. Type of jump (tactical, non-tactical, proficiency, etc.).
 - d. Type of A/C, number of A/Cs, sequence/formation.
 - e. Type of parachute system being utilized.
 - f. DZ data (name, location, drop heading, features, obstacles, turn in points, etc.).
 - g. Scatter plan, assembly areas, and assembly aides.
 - h. Airborne timeline with important hit times such as time to begin donning parachute systems and LT.

- i. Current and projected weather at DAF and DZ.
- j. Time of WX
- k. Bump plan.
- I. Other pertinent information (handling and marking casualties, recovery of equipment, responses to the media at DAF, accountability, etc.).
- 6. Sustained Airborne Training (SAT). The PJ is overall responsible for the quality and delivery of the entirety of SAT. SAT must be active, performance-oriented training conducted in either the unit area or DAF up to 48 hours prior to take off time. If proper training facilities are available (mock doors, PLF platforms), they must be utilized. If conducting SAT in an austere environment and facilities are not available, every effort must be made to simulate proper conditions to maximize training effectiveness.
 - a. Pre-jump. A good practice for delivering pre-jump training is to have the PJ, or their delegate in the JM team, to stand on an elevated platform while the rest of the JM team walks through the training area ensuring performance measures are done to standard. Ensure that the training is delivered in an area that is free from large amounts of ambient noise and distractions to the Jumpers. Pre-jump is listed in Appendix E. While Pre-jump can be recited or read, it is a good practice to treat it as a class and not a brief. If you have inexperienced Jumpers, it is a good idea to explain what certain things mean, for example, how to lower their equipment, or what constitutes IMC etc.
 - b. Parachute landing falls (PLF). Emphasis on proper PLFs is vital in decreasing Jumper injury during their fifth point of performance. Proper PLF platforms are at least 24 inches high with a soft-landing material for the Jumpers to land in, such as pea gravel or shredded rubber. JMs must demonstrate proper PLFs for all Jumpers before conducting the training. Utilize the jumping JMs in the team so they accomplish their mandatory PLF training first and are available to assist with the monitoring of the Jumpers' performance. Maximum ratio for evaluating PLFs is a 5:1 Jumpers to JM. Ensure Jumpers make one satisfactory PLF in all the four directions (front left, front right, rear left, rear right). If Jumpers make errors that could result in injury or death, continue to retrain the Jumper until correct performance is conducted.
 - c. **Mock door training.** Utilizing universal static line snap hook attached to five-foot universal static line extensions is highly recommended. If conducted in the unit area, appropriate mock door facilities (replica aircraft layout with anchor line cables and static lines (any generation) with point of attachment (any generation) must be used when appropriate facilities are present and available at the DAF). The following consists of mock door training:
 - i. Static line control, exiting procedures, red light procedures, jump refusals, towed Jumper procedures, emergency procedures (SERJTE) brief. The JM must conduct the SERJTE brief with demonstrators to all Jumpers for the specific A/C that is being utilized. Reference Appendix F, *Jumpmaster Briefs* in this document or their specific chapter in TC 3-21.220. During emergency procedures, load all Jumpers into the mock doors to conduct appropriate crash-landing positioning.
 - ii. Individually graded exits (optional). JM teams should highly consider conducting this training when a significant amount of the chalk has less than 12 high performance A/C exits. Each Jumper will be given an abbreviated set of jump commands ("STAND UP, HOOK UP!" and then "GO!"). When given the command of "STAND UP, HOOK UP", the Jumper will form an appropriate "four in the hand, 2 below" bight at approximately eye level with their elbow high and close to the Jumper's face. On the command "GO!", the Jumper will extend their arm fully and begin walking towards the paratroop door making good eye to eye contact with the Safety. After successfully transferring

control of the USLM to the Safety, the Jumper must make a 90 degree turn and move into their first point of performance. See figure 6.4a – Individually Graded Exit Layout for placement of JMs.



Figure 6.4a – Individually Graded Exit Layout

- iii. Exiting rehearsals. This is conducted as a dress rehearsal to the actual operation. All Jumpers, JMs and Safeties will be present and conduct all actions in the A/C through the complete exiting of the mockups as appropriate for their airborne operation. Ensure Jumpers are loaded in reverse chalk order and utilize the correct anchor line cable as planned. Pay special attention to the space and timing between Jumpers as to not lose the half second separation between paratroop doors. Required rehearsal actions include (as appropriate):
 - 1. In-flight rigging.
 - 2. Hanging of special items of equipment.
 - 3. Full inspection, attachment, and exiting of A-series/CAADS containers. A suitable replica of the container must be present and exited from the mock doors.
 - 4. Explaining the sequence of exiting if releasing HE on first pass.
 - 5. All appropriate time warnings and jump commands.
 - 6. Appropriate paratroop door checks.
 - 7. Exiting procedures. Ensure that Jumpers simulate lifting the seats for the appropriate A/C and tightening of their adjustable leg straps.
 - 8. Red light procedures. This must be done at least once.
 - 9. Final clear to the rear checks by the Safeties.
 - 10. "Down door" procedures. This must be briefed and is encouraged to be performed in the mock doors as well. This includes identifying members of the JM team for the responsibility of changing which shoulder the USLM will be routed, how the Jumpers will transition from the downed paratroop door to the active paratroop door, what will happen to AJ(s) who will no longer be exiting Jumpers, and any additional information deemed necessary by the PJ and the Airborne Commander.

Jumpers will typically "hook up" to the anchor line cable that they are seated under (outboard seats to outboard anchor line cable, inboard seats to inboard anchor line cable). This is not mandatory and if mission dictates to vary from this practice, ensure that is well rehearsed.

Jump commands may be altered for standing up your Jumpers if it is appropriate for the airborne operation (i.e. utilizing the command "FIRST PASS PERSONNEL, STAND UP" for multi pass operations).

Exiting rehearsals MUST be conducted once as a mass exit and twice AS PLANNED. If the planned exit is a mass exit, only two rehearsals are required. Keep training until it's done right. The last rehearsal must be conducted as planned.

In the event an A/C goes down after you conduct mock door training and Jumpers must be cross loaded to a different airframe (example: planned for C-130H and cross loaded to a C-17), only the first O-5 in the chain of command or higher (DRAW Authority) has the authority to waive the retraining requirements. It is highly suggested that the JM team and all Jumpers go through complete mock door training for the new airframe. When possible, build the bump plan pairing sets of like airframes.

6.5 Duties of the JM Team at the Departure Airfield

- Upon arrival at the DAF, the Safety will report to the DACO (as directed by the PJ) for any special instructions and review any changes to parking/critical time changes. If SAT was not conducted at the unit area, the JM team should immediately begin training their chalks. It is required to conduct a ramp-side inspection of the Jumpers' combat equipment after movement to the aircraft to ensure that no deficiencies were incorporated. See Chapter 6.5.10a for more information on the ramp-side inspection of Jumpers.
- 2. Strict control must be maintained by the JM team to keep accountability of Jumpers and to ensure that ST is not missed. Any temporary absences from the chalk's location (latrine, smoke breaks, etc.) must be approved by the PJ. Jumpers should not be allowed to leave the DAF during the airborne timeline due to possible, unforeseen changes that may require rapid assembly. Once the chalk is set in reverse chalk order, no one should be allowed to get out of position without the knowledge and permission from the JM team. This will facilitate an orderly parachute issue, maintain integrity in the chalk, and reinforce working with their airborne buddy.
- 3. **Parachute issue.** There are two types of parachute issue regularly conducted: individual issue and prepositioned issue. Both methods are efficient, however prepositioning parachutes for issue saves time at the DAF.
 - a. **Individual issue.** The PJ must supervise the Jumpers as they draw their main and reserve parachutes as well as the appropriate weapons case. Jumpers must already know the type of weapons case they require for the weapon system being jumped. Jumping JMs must draw their own equipment and

Safeties must draw and maintain accountability for their Advanced Emergency Bailout Parachute (AEBP), two additional T-11 reserves per A/C and enough universal parachutist recovery bags (UPRB) to properly recover the universal static lines modified (USLM) and deployment bags (30 x deployment bags per UPRB). Parachutes can be issued at the PAX terminal, outside, or plane side.

- b. Prepositioned issue. Utilizing the finalized manifest, the Parachute NCOIC will direct their detail to layout all air items according to the manifest. This must be accomplished prior to the jumping unit's arrival at DAF. Ensure an AEBP is placed for every Safety on the JM team and the required extra air items (two T-11 reserve parachutes and UPRBs for deployment bag recovery) are drawn as well. It is the responsibility of the Parachute NCOIC to maintain accountability of all equipment until the Jumpers have completed SAT and the PJ can assume responsibility. Parachutes can be laid out in the PAX terminal or outside (ensure weather conditions are permissive to laying out equipment outside).
- 4. Inspection of the parachute system. The JM team will ensure that all Jumpers conduct an initial inspection of their individual parachute system to ensure it is serviceable and configured appropriately for the A/C being utilized. Special attention must be made when jumping in large formations with mixed A/Cs due to the possibility of Jumpers drawing parachutes configured for the incorrect A/Cs (primarily the five-foot USL extension for C-17 Globemaster III operations). If any deficiencies are found that question the way the parachute was packed or could harm to the Jumper, place the parachute inside the UPRB and tag the carrying handle with a shoe tag listing the specific deficiency. No Jumper or Jumpmaster will activate or utilize a parachute system after finding it unserviceable.
 - a. Jumpers will inspect both the main parachute and reserve parachutes for the following:
 - i. Jumpers will ensure the main lift web is properly sized to them. An overwhelming majority of Jumper's Main Lift Web should be on size small unless they are wearing load carrying equipment or body armor. This is identified by the snap fastener on the main lift web being below the D-ring. If it is below the equipment ring or fully extended the canopy release assemblies will often be too high on the Jumper's shoulders (see figure 6.5a).



Figure 6.5a – Sizing Main Lift Web

- ii. Check the diagonal backstraps for proper sizing. There is no set size for any Jumper, but the majority of Jumpers should be on a 2 or 3. However, the main focus is to ensure the parachute fits properly. If adjustments are made by a Jumper, they will have their adjustments checked by a jumpmaster or parachute rigger.
- iii. Ensure that there is a DA Form 3912 is in one of the two riser sets and secured in the Army parachute log record stow pocket on the main parachute and on the rear of the reserve pack tray. Ensure that the DA Form 3912 is properly tacked to the Army Parachute Log record stow pocket.

- iv. Inspect for any exposed canopy or suspension lines on both parachutes. Pay special attention to the general vicinity of the connector snaps of the T-11R. This deficiency can be corrected by a Parachute Rigger, but the acceptance for serviceability of the parachute system lies in that of the Jumpmaster.
- v. Check for any excessive dirt or water and any oil or grease. It is not uncommon for parachutes to have some dirt on the pack trays, but they should not have so much that it calls into question the integrity of the system. Parachute systems should not be issued in a wet condition and oil, or grease can severely degrade nylon.
- vi. Look for any large rips, tears or holes. If a hole is found in the UPRB that is large enough for air items to hang or fall out of it, mark the UPRB and draw another. The pack trays of both parachutes should be generally intact.
- vii. Check all metal components to ensure they are not rusted, cracked, corroded, bent, or distorted out of shape.

For step by step rigging procedures of the MAWC reference Chapter 12-16. This section is a serviceability inspection to be conducted prior to rigging the MAWC.

5. Inspect the MAWC for the following:

- i. Ensure that the hook and pile tape engage appropriately on the adjustable nose cone and that the nose cone securing straps are present and serviceable.
- ii. Both quick release buckles must be intact and serviceable on the compression straps.
- iii. Inspect the slide fastener and tabbed thong. Ensure the teeth are present and engage as well as insuring there is a spring in the upper spring stop. If there is not one present on the outside, there must be one present on the inside.
- iv. Check the proper sizing of the MAWC. A good starting point is having the snap shackle routed through the fourth rung down of the pouch attachment ladder system webbing with no more than two fingers width of excess protruding. Generally, this will ensure the MAWC sits on the Jumper at the proper height. Ultimately, the top of the MAWC must be placed between the top of the D-ring and the bottom of the canopy release assembly and no less than six inches from the ground.
- v. Inspect the friction adaptor to ensure that is not rusted, cracked corroded, bent, or distorted out of shape and the adjusting strap is properly routed through it. The free running end of the adjusting strap will be S-folded or rolled and secured with a retainer band girth hitched to the bottom most rung of the pouch attachment ladder system webbing.
- vi. The snap shackle cannot be rusted, cracked, corroded, bent, or distorted out of shape and the yellow safety lanyard must be present, serviceable, and be attached to the snap fastener that allows for the most slack.
- vii. Ensure that nothing is protruding out of the MAWC, especially at the adjustable nose cone, and that it is not so full that is makes the Jumper exceed 30 inches wide. If so, the Jumper must remove part or all of the secondary load and cross load it inside their jumpable pack or with other Jumpers.

- 6. Inspection of the A/C. The A/C should be available for inspection NLT one hour prior to ST. Although the PJ is overall responsible for the inspection of the A/C, they may delegate the task to the AJs or Safeties. Coordinate with the DACO for which PAX will be conducting the inspection so escorts can be arranged for movement to the A/C at the DAF. Only one JM is required to conduct the inspection for any A/C. During engines running for on/off-load (ERO) the first lift JMs will conduct the inspection of the A/C and subsequent JM teams will ensure that any reconfiguration of the A/C was done to meet follow on mission parameters. Reference Appendix D, *Forms, Checklists, and Reports* for A/C inspection criteria.
- 7. Donning of the parachute system and equipment. It is highly suggested to give a "buddy rigging" class to all Jumpers before the actual donning begins. Jumpers are dependent on their buddy to adjust their parachute harness correctly and serious injury or death can occur if not done properly. This will also reduce the number of deficiencies encountered during Jumpmaster Personnel Inspection (JMPI). Donning must begin NLT than one hour prior to ST. This is only accomplished if there are sufficient JMs to support in the chalk, buddy system donning is reinforced by all Airborne Leaders, strict control of Jumpers is maintained, and Jumpers are adequately trained and proficient in the proper donning of their equipment. Adjustments to the airborne timeline should be considered to ensure that there is adequate time to properly don and inspect Jumpers without requiring Jumpers to be in their parachute systems for an excessive amount of time. Rules for utilizing the buddy system is as follows:
 - a. All PAX to include Jumpmasters and Jumpmaster teams must utilize the buddy system to don and adjust their main and reserve parachutes. There is never a scenario in which any JM or Jumper performs donning actions on their own.
 - b. Ensure all Jumpers fully elongate all of their points of adjustment on the T-11 parachute harness. If any sizing adjustments are performed to the diagonal back straps or the main lift webs, a JM or Parachute Rigger must verify they were done correctly.
 - c. To increase efficiency, reduce risk, and decrease deficiencies in rigging, the JM team will supervise their chalk during the buddy rigging of their Jumpers.
 - d. The JM team must ensure that the airborne buddy system is utilized, paring inexperienced Jumpers with more seasoned Jumpers. If there is an odd number of Jumpers, a JM may perform buddy rigging with the odd Jumper. When there is a large number of inexperienced Jumpers in the chalk, the JM team must give extra attention during donning and be prepared to make corrections.
 - e. Jumpers are authorized and encouraged to drink water while in the parachute harness. It is recommended to utilize spill proof containers to minimize the chance of getting air items wet. Jumpers will not eat or consume fluids other than water unless under the following conditions:
 - i. In extended airborne timelines or during extreme weather conditions, the DRAW authority may determine that feeding will occur after the parachute systems have been donned. This must have already been addressed in the DRAW for the airborne operation.
 - ii. The Airborne Commander will ensure that every effort is taken to protect the parachute systems from contamination (limiting the type of food consumed, placing plastic bags on top of the reserve parachute, etc.).
 - iii. The unit must be prepared to provide additional detail PAX to conduct any required cleaning and maintenance on the parachute systems if they become soiled during feeding.

At no time will anyone who is rigged in or near any parachute system use cigarettes, smokeless tobacco products, or "e-cigarettes".

8. Jumpmaster Personnel Inspection (JMPI). In order for a JM to perform JMPI they must be in either Tier 1 or Tier 2 status and fully qualified on the parachute system being utilized. Prior to JMPI, the PJ will collect all current, qualified JMs and conduct a brief regarding the specific procedures for the airborne operation (i.e, five-foot USL extension use, late hang and JMPI, TI and hang, etc) and reiterated any recent changes to procedure (recent MJM updates that modify the most current edition of the CAASOP) and new equipment that JMs may not be familiar with. The PJ may designate JMPI sections, and if necessary, a corrections station. Remind JMs that they should only be breaking stows necessary to properly route the USLM through the static line slack retainer band (SLSRB) on the static line slack retainer loop and over the correct shoulder.

Jumpmasters are authorized to conduct JMPI on a Jumper that they buddy rigged. Donning and inspecting are mutually exclusive.



Figure 6.5b – Proper routing of USLM through stows and static line slack retainer bands

Also, reiterate how to place the Jumper into jump configuration (closing friction adapter protective covers on MOLLE 4000, proper routing of the adjustable leg straps for the appropriate paratroop door, etc.). The JMPI sequence for the T-11 ATPS/MC-6 PPS is listed in Appendix G. Use the following points to efficiently and effectively conduct JMPI:

- a. The PJ should only conduct JMPI if required to meet ST. It is the job of the PJ to supervise all JMs on their team and in their chalk in order to maintain quality of inspection.
- b. JMs conducting JMPI should be assigned to sections (a JM for Jumpers 1-8 on left paratroop door, another JM for 9-16, etc.). Additional JMs can be utilized to bolster sections to increase efficiency, but this should be organized prior to execution to speed up the JMPI process.
- c. When utilizing a corrections station, JMs will not hold up other Jumpers to correct complex rigging deficiencies. If a deficiency cannot be corrected in 30 seconds or there are multiple deficiencies on the same Jumper, send the Jumper to the corrections station to address any issues.
 - i. A JM that is no longer current, but qualified, may man the corrections station. If the JM makes corrections for deficiencies noted, the Jumper must be sent to a current and qualified JM for JMPI.
 - ii. If the corrections station is manned by a current and qualified JM, the JM can make all corrections and conduct JMPI on the Jumper before sending them back to the chalk.

- d. Have Jumpers rig up and then take a seat with their helmets on. This reduces Jumper fatigue and helps maintain accountability of all members of the chalk. JMs can begin JMPI for their section and be flexed to other sections once complete. After the Jumper has had JMPI completed, have the Jumpers remove their helmet to make it easier for the PJ to evaluate how many Jumpers still require JMPI and if they will need to assist JMPI in order to make ST.
- e. The PJ must ensure that the Safeties are well versed in any special items of equipment being jumped and conduct an appropriate technical inspection (TI) of all rigged equipment prior to hanging on the Jumper. Review with the Safeties the proper attachment of items of equipment at the 20-minute mark (Stinger Missile Jump Pack, M3 MAWWS/Carl Gustav, AT-4 Jump Pack, etc.).
- f. Fully inspect all A-series containers (door bundles, CAADS). Reference CAASOP Chapter 12, *Preparation of Equipment* for inspection criteria.
- g. If a deficiency is found during JMPI that is rigged into a parachute system, notify a Parachute Rigger. If it is within the scope of the Parachute Rigger to correct on the spot, they will conduct the correction. The JM must return to the last control point prior to the deficiency and then continue the JMPI sequence. The JM does not have to restart their sequence after a deficiency is corrected.
- h. JMs are not allowed to correct deficiencies in the parachute system! The only corrections a JM can perform is fixing a stow of USLM if broken during JMPI, stowing of excess USLM after JMPI, and replacing an unserviceable or missing webbing retainer with a retainer band.
- i. Any deficiency judged to question the integrity of the packing procedures of the parachute system or that could cause serious/loss of life or eyesight will initiate the removal of the equipment from the Jumper. The equipment must be placed inside the UPRB and marked with a shoe tag. Ensure the Parachute Rigger in charge is aware of any parachute systems that fall into this category.

Both Jumpmasters and Riggers have the authority to deem a parachute unsafe. If either party makes that decision, the parachute will be marked and not jumped on that operation.

j. Upon completion of the JMPI sequence and all deficiencies have been corrected, the Jumper must be put into jump configuration. When placing the Jumper into jump configuration ensure that the USLM is not routed underneath the main curved pin protector flap, remove excess slack in between the stows of USLM and ensure stows are approximately two inches. Place the Jumper into jump configuration by:

i. Hollywood and CE:

- A. Closing the main curved pin protector flap.
- B. Ensuring that all slack is removed from the USLM by pulling down on the USLM through the static line slack retainer band, over the appropriate shoulder, to the USL snap hook. If room permits, create a new stow of USLM on the next available static line stow bar, ensure no twists are incorporated.
- C. Place the top and bottom tuck tabs of the T-11R parachute back in their appropriate tuck pockets.
- D. If required, insert T-11 reserve parachute tuck tab inserts.

ii. Only CE:

- A. Assist the Jumper in removing excess slack in their adjustable D-ring/equipment ring attaching straps.
- B. Route the appropriate adjustable leg straps (ALS). After routing the ALS, remind the Jumper to tighten them after they stand up during jump commands and ensure they understand how to

properly stow the free running ends. There are two authorized methods of securing the ALS: one leg free or no legs free:

- One leg free. The leg of the Jumper that matches the paratroop door they are exiting does not have the ALS routed around it. This allows for greater mobility of the Jumper at the expense of the CE not staying as tight to the Jumper's body and possibly increasing the induction of twists.
- 2. No legs free. Both ALSs will be routed around both legs. This maintains better contact of the CE to the Jumper at the expense of losing some mobility.
- 3. The MAWC will always be secured with a leg strap if available.

When using the "one leg free" method remember: "left door, left leg free, right door, right leg free, always around the MAWC".

- C. If the Jumper has the MAWC as a single item of equipment, the JM will route the yellow lower tie down strap around the Jumper's left leg.
- D. For the MOLLE 4000, ensure that the friction adaptor protective covers are closed and completely cover the quick release, the friction adaptor and the S-folds. Up to two inches of free running end of the equipment retainer strap may protrude out of the friction adaptor protective cover for ease of activation once on the ground.

Jumpers should be fully rigged (exceptions for certain items of equipment) before moving towards the A/C unless R.A.C.E. has been authorized by the Airborne Commander and coordinated with the USAF.

9. Optional procedures for attaching equipment. There are two main areas where equipment can be prestaged and hung late on Jumpers in order to reduce Jumper fatigue – the marshalling area/DAF or the ramp-side of the A/C. Both require prior coordination and must be discussed during the S-3 Air brief and addressed in the DRAW. Jumpers that are jumping large and/or heavy items of equipment (M240B, 60mm mortar system, and others as outlined in Annex I, *Multi-national Force Interoperability and Combined Training*) are authorized to conduct delayed hanging and inspecting of equipment without prior approval. Any other exception must be approved by the Airborne Commander.

a. Locations for optional attachment of CE.

- i. PAX terminal/marshalling area. The JM team will meet with the DACO or MACO to confirm the chalk number and integrity of the chalk once all Jumpers are positioned appropriately. The chalk will lay out their fully rigged equipment in reverse chalk order in the designated area and the JM team will begin inspecting all CE to ensure new deficiencies were not incorporated during transport. The unit must thoroughly plan the positioning of current and qualified JMs within the chalk to ensure chalk integrity is maintained.
- ii. **Ramp-side attachment of combat equipment (R.A.C.E.).** The JM team will meet with the DACO to confirm the chalk number and integrity of the chalk. The chalk is placed in reverse chalk order with all CE and then escorted to the ramp of the A/C. It is vitally important that chalk integrity be strictly maintained to prevent delays when falling back on the equipment.
 - A. Once in position, the Jumpers will lay out all equipment starting at the ramp of the A/C moving away from it.
 - B. The JM team will begin inspecting all CE to ensure new deficiencies were not incorporated during transport.
 - C. Once complete, all Jumpers will be escorted back to the PAX terminal/marshalling area.

- D. A security detail of one PAX per A/C should be left to maintain accountability of all sensitive items. This must be coordinated several days in advance with base operations or airfield security.
- E. If R.A.C.E. is being implemented during low light conditions, the unit must provide light sources to adequately illuminate the hanging and inspection area.
- F. The Airborne Commander is the final authority to cancel R.A.C.E. and revert back to the standard rigging of CE.
- G. It is the PJs responsibility to supervise all optional attachments and inspections. The PJ should not participate unless required to meet ST.
- H. The Airborne Commander must ensure that appropriate Parachute Rigger support and Medics are present at the ramp-side for the entirety R.A.C.E.
- I. If conducting R.A.C.E., the unit must provide a police call detail to walk the area and clear the parking area of foreign object debris (FOD). The PJ is responsible for ensuring that the area is completely free of FOD before ST.

The security detail does not require a security clearance if the equipment is maintained behind the "red line".

b. Methods. There are two different ways the JM team can accomplish optional attachments of CE; technical inspection (TI) and hang and late hang and JMPI. When conducting either of these techniques, the JM team must be cognizant of the airborne timeline and ensure that all donning into Hollywood configuration and JMPI of all Jumpers are complete before LT. Be aware that both policies add time to the airborne timeline and should only be used to reduce stress on Jumpers. Ensure that LT is scheduled NLT ST (-) 45 minutes to accommodate the correct and safe hang of CE to the Jumpers and completing the appropriate inspections.

i. Technical Inspection (TI) and Hang.

- A. A JM (can be a different JM than the one who conducted the Hollywood JMPI) will conduct a TI of the rigged CE to ensure it is IAW Chapter 12 of the CAASOP and TC-3-21.220.
- B. Once complete, the JM will attach the CE to the Jumper IAW Appendix F-1, Buddy System for T-11 ATPS and MC-6 PPS.
- C. Once all CE is attached to the Jumper, the JM will conduct a six-point inspection to ensure it is properly attached and configured by:
 - 1. Check both the adjustable D-ring/equipment ring attaching straps to ensure they are attached to the appropriate equipment rings, the spring opening gates are facing the Jumper, they are not routed beneath the waistband, and they are free of twists, cuts, and frays.
 - 2. The HPTLL is properly routed from front to back through the attachment strap of the MAWC and secured to the triangle link on the Jumper's left side.
 - 3. Ensure that the opening gate of the ejector snap on the HPTLL is facing the Jumper or to the rear of the Jumper and the yellow safety lanyard is easily accessible to the Jumper.
 - 4. The snap shackle of the MAWC is fully secured with its locking pin and is the outer most item of equipment on the Jumper's left equipment ring and the yellow safety lanyard is attached to the snap fastener that allows for the most slack.
 - 5. The upper tie down tape is properly girth hitched to the horizontal back strap below the free running end and above the waistband adjuster panel and then routed through the small cutaway portion of the left equipment ring, through the tabbed thong (optional), and through the upper most vertical nylon equipment hanger. Ensure that the single or double loop bow knot is placed on the lead edge of the MAWC.
 - 6. Once the JM completes the six-point inspection, they must assist the Jumper in removing the slack from their points of attachment for the HSPR/IHSPR and appropriately route the ALS around the appropriate leg or legs and the MAWC.

ii. Late hang and JMPI.

- A. The Jumpers will attach CE to each other IAW Appendix F-1.
- B. Once all CE is attached, a JM (can be a different JM than the one who conducted the Hollywood JMPI) will conduct a modified JMPI sequence which begins at the snap shackle of on the MAWC, bypassing the reserve parachute, and picking back up at the points of attachment for the HSPR/IHSPR till completion at the ejector snap of the HPTLL.
- C. Once complete, the JM must assist the Jumper in removing the slack from their points of attachment for the HSPR/IHSPR and appropriately route the ALS around the appropriate leg or legs and the MAWC.
- 10. Loading the A/C. When conducting airborne operations at the DAF, USAF guides/Security Forces will escort the chalk from the PAX terminal to the A/C. PAX are generally not allowed to move across the "red line" without appropriate escorts. Additionally, PAX are not allowed to be prepositioned past the "white line" when A/C are taxiing on the flight line. It is the JM team's responsibility to supervise the chalk's movement to the A/C and ensure chalk integrity is maintained. All Jumpers must be at the ramp of the A/C in reverse chalk order and begin loading NLT LT. Loading in increments is recommended for CE jumps or during inclement weather. LT is also the final opportunity to inspect the A/C before the airborne operation.

a. Jumpmaster Load time ramp-side inspection of Jumpers:

As Jumpers load the A/C, the JM team will inspect to ensure:

- i. USL-M is routed over the appropriate shoulder.
- ii. Adjustable leg straps are properly routed.
- iii. Adjustable D-ring/equipment ring attaching straps have had their slack removed.
- iv. The ejector snap HPTLL is properly routed and secured to the triangle link.
- v. The HPTLL is properly secured and excess stowed.
- vi. Visually inspect the MAWC adjustable nose cone to ensure no item of equipment is exposed.

When jumping CE, be careful for Jumpers who fall behind during movement to the A/C. Chalk integrity can be compromised when this occurs.

Loading procedures vary from A/C to A/C. For the purpose of this section only C-130 series A/C and C-17 Globemaster IIIs will be covered. For additional information and instruction on loading procedures, reference Chapter 11, *Non-Standard Aircraft Airborne* Operations of the CAASOP or TC 3-21.220, Chapter 16, *High Performance Aircraft*, Chapter 17, *Rotary Wing Aircraft*, Chapter 18, *Sister Service Aircraft*, and Chapter 19, *Nonstandard Aircraft*.

b. C-130 series A/C.

- i. The Jumpers must be loaded into the A/C in reverse chalk order, starting towards the forward portion of the A/C and moving towards the aft end.
- ii. The Safety will individually seat each Jumper according to their chalk position and ensure they have positive control of their seat belt and the portion of seat belt for the following Jumper closest to them. This prevents Jumpers from slowing down the loading of the A/C attempting to find their seatbelts after being seated.

Safeties must seat each Jumper carefully to ensure the main curved pin remains seated. Rough or careless seating of Jumpers runs the risk of activating the main parachute or pulling the USLM below the main curved pin protector flap.

- iii. Safeties must ensure that outboard personnel's CE rests on top of inboard personnel, so it does not prevent Jumpers for executing their first two jump commands. Seat one inboard PAX first, then the outboard PAX immediately after. Assist all Jumpers in placing their CE after seated.
- iv. Safeties must don their AEBPs prior to the 10-minute time warning.
- v. Loading a C-130 series A/C should take no more than 25 minutes.

The key to rapid loading of the aircraft is the Safety's ability to tightly seat Jumpers with limited gaps and rapidly pass off the Jumpers seatbelts. Combat equipped Jumpers on a fully loaded C-130 will be uncomfortable.

c. **C-17 Globemaster III.** With the increased cargo area and spacing of the seats, difficulty in seating Jumpers is greatly reduced. Ensure all Jumpers are loaded from the forward portion of the A/C to the aft end in reverse chalk order and the Safeties will assist the Jumpers in the handling of their seatbelts. Loading a C-17 Globemaster III should take no more than 15 minutes.

d. Preparation for take-off. Once all Jumpers are seated and their seatbelts are fastened, the Safeties will conduct a final check on all Jumpers to ensure their equipment is still free from deficiencies and there is nothing preventing the safe execution of the airborne operation. Safety should also BPT distribute water if Jumpers are fatigued. Jumpers may, under the direction of the PJ, remove their helmets after being seated. All Jumpers must place their helmets back on during taxi and take-off and remain on until they have cleared the Drop Zone. In a situation where there is an extended flight the Jumpers must don their helmets again at the 20-minute time warning for both HE and PAX passes. A safety briefing must be given to all PAX on-board the A/C by the Loadmaster or Pilot prior to take-off. It is the responsibility of the PJ to ensure this brief is delivered.

6.6 Duties of the JM Team While in Flight

- Strict control of all Jumpers is vital to the safe execution of the airborne operation. JMs must show confidence, communicate concisely, and have a high degree for attention to detail while in the A/C. Ensure that all Jumpers are awake before take-off and have their helmets secured throughout the airborne operation, unless prolonged flight paths permit the additional rest as judged by the Airborne Commander.
- 2. JMs must always remain oriented. Under night conditions or when above the clouds, the JM team can be assisted by the Loadmaster. However, it is the JM standing in the paratroop door's responsibility to know their landmarks, ensure it is "clear to the rear", and give the command of "GO!" on the correct DZ. Ensure to have the pilots review the air route diagram during the JMB. It is the JM's responsibility to be able to use a map, or other means, to select their one minute and 30 second reference points, find them while in the air, and send their Jumpers out at the right time.
 - a. For the purpose of this section, the instruction will be based off of time from P-hour. When variations occur between airframes, they will be discussed separately in the same section. There will not be separate instructions between the C-130 series and C-17 Globemaster III A/Cs.

In an A/C traveling approximately 130 knots, the one minute reference point will be approximately 4km from the PI. The 30 second reference point will be approximately 2km from the PI. Using a map, draw a scaled line opposite the direction of flight and measure from the PI. Locate easily identifiable landmarks (lakes, major road intersections, specific buildings, etc.) that do not change over time.

- b. The term "JM" or "JMs" will be used when referencing the jumping JMs (PJ and AJ) for the remainder of this SOP.
- c. All jump commands are shown for mass exits.
- d. **30 minutes from P-Hour.** On tactical operations, the Safety can use the A/C intercom system or update and pass around an information board to brief the Jumpers on the following:
 - i. Weather conditions. If possible, give wind speed and direction.
 - ii. Enemy situation.
 - iii. Ground tactical plan update.
 - iv. Challenge and password.
 - v. Assembly plan.
 - vi. Parachute turn-in.
- e. **20 minutes from P-Hour.** On flight paths that allow for 20-minute time warnings, the JMs will stand from their seated position and issue the "20 MINUTES!" time warning. The JMs will then supervise the Safeties doing the following:
 - i. Ensure all Jumpers are awake and properly wearing their approved helmets.
 - ii. Ensure all EMC2 equipment is stowed.
 - iii. Identify any air sick Jumpers and move them towards the forward portion of the A/C so they do not interfere with other Jumpers.
 - iv. If exiting door bundles the JMs will assist the Safeties:
 - A. Position the door bundle in the vicinity of the paratroop door.
 - B. Conduct a TI of the bundle, ensuring it is still rigged IAW Chapter 12.
 - C. Remove the data card (will be maintained by the Safeties).
 - D. Hook up the USL snap hook to the outboard anchor line cable.
 - E. Activate any chemical lights/tracking devices as applicable.
 - v. Attach special items of equipment to their assigned Jumpers (SMJP, M3 MAAWS/CARL GUSTAV, M240, or other heavy, bulky items, or any items approved by the Airborne Commander) and JMPI. Inspection should include at a minimum:
 - A. Conducting a TI on the item to ensure it is still rigged IAW Chapter 12.
 - B. The USLM is not misrouted and stowed appropriately to the Jumper's pack tray.
 - C. The ALS, snap hooks on the HSPR/IHSPR, and HPTLL are properly routed and connected appropriately to their points of attachment.

- vi. Prior to the "10 MINUTES!" time warning, start any digital media recording devices.
- f. **10 minutes from P-hour.** The Loadmaster will alert the JMs that the A/C is approximately 10 minutes out from the PI. Once this occurs the JMs will:
 - i. Raise and stow their seat as appropriate.
 - ii. Hook up their USL snap hook to the inboard anchor line cable and position themselves:
 - A. C-130 series forward of the paratroop door.
 - B. C-17 Globemaster III forward of the wind deflector control panel.
 - iii. JMs will turn toward the skin of the aircraft and face their Jumpers.
 - iv. The Safeties will move toward the forward portion of the A/C.
 - v. Once all equipment is stowed and the Safeties are in position, the JMs will simultaneously issue the "10 MINUTES!" time warning.
 - vi. Immediately go into issuing the following jump commands:

When issuing jump commands, DO NOT rush through them! Give your Jumpers the opportunity to calmly go through their required actions after each command. Quickly going through jump commands adds stress for the Jumper and increases risk from skipping steps and improper use of equipment.

A. "GET READY!" – Jumpers remove their seat belts.

B. "OUTBOARD PERSONNEL, STAND UP!"

- 1. C-130 series Outboard personnel will stand up on top of their seats to allow room for inboard personnel to stand up.
- 2. C-17 Globemaster III Outboard personnel will stand up, properly stow their seat belts and raise their seats.
- C. "INBOARD PERSONNEL, STAND UP!"
 - C-130 series Inboard personnel will stand up, turn and properly stow their seatbelts, release the support legs from the floor and rotate them on top of the seats, then properly stow the seats in an up position. Inboard personnel will then move as far inboard as possible to allow the outboard personnel to perform the same actions to stow their seats. Once both sides have their seats properly secured the JMs will motion for the Jumpers to move forward as appropriate to prevent congestion at the forward portion of the A/C.
 - 2. C-17 Globemaster III Inboard personnel will stand up and move under the inboard anchor line cable.
- D. "HOOK UP!" All Jumpers will remove their USL snap hooks and attach them appropriately to their assigned anchor line cable.
- E. "CHECK STATIC LINES!" All Jumpers will start at the USL snap hook, checking the spring tension on the spring opening gate and ensuring that it is facing the skin of the A/C. They will then trace down the USLM ensuring their "four in the hand, two below" bight is approximately

at eye level, not on the double sewn, reinforced portion, and close to their face. The Jumper will continue to trace the ULSM over their appropriate shoulder, ensuring that it is not routed over the incorrect shoulder or under the riser assembly.

- Issue the supplementary jump command of "LAST TWO JUMPERS TURN TOWARDS THE SKIN OF THE AIRCRAFT. SECOND TO LAST JUMPER, CHECK THE LAST JUMPER'S STATIC LINE!" The Safeties will then supervise the last two Jumpers on both the inboard and outboard anchor line cables make the appropriate turn and then all Jumper will perform:
- 2. Tracing the USLM from where it emerges over the other Jumper's shoulder, ensuring it is not routed over the incorrect shoulder or under the riser assembly. They will continue to trace the ULSM, to ensure it is properly routed through a static line slack retainer band, to the first stow and no portion is hanging below the main curve pin protector flap.
- 3. If any Jumper finds a deficiency with another Jumper's USLM, they will immediately drape their free arm over the anchor line cables to get the attention of the Safety.

At no time will a Jumper attempt to make a correction to another Jumper's USLM! The job of the Jumper is to identify any issues and bring them to the attention of a Safety.

- 4. Once all Jumpers have completed all performance measures, they will give the Jumper in front of them a tap on the helmet. The Safeties will then begin checking all ULSMs starting at the forward most portion of the A/C and moving towards the paratroop doors. The Safety will check for the following:
 - 1. Check the spring opening gate of the USL snap hook ensuring it has good spring tension and the spring opening gate is facing towards the skin of the A/C.
 - 2. Trace down to ensure the Jumper is not securing the USLM on the double sewn, reinforced portion and the "four in the hand, two below" bight is at eye level and close to the face with the Jumper maintaining a high elbow.
 - 3. Continue to trace the USLM, ensuring it is routed over the appropriate shoulder and not under the riser assembly.
 - 4. Finish tracing the USLM past the static line slack retainer band, ensuing that the USLM is routed through one of them and that no excess USLM is left hanging from the pack tray.
 - 5. Next, sweep across all stows of USLM between the inner and outer static line stow bars to ensure no excess slack is present. Pay close attention to ensure no ULSM exists below the main curved pin protector flap. If excess is found, tighten the stows to ensure the portion of USLM between the stows is taught.
 - 6. Finally, look each Jumper in the eyes and issue them verbal reinforcement of proper control of their USLM and exiting procedures. "Walk, don't run towards the paratroop door," "maintain ripcord handle awareness," and "make eye to eye contact with me, I am your Safety" are all examples of appropriate reinforcement, but anything that reminds the Jumper of an action to be done correctly may be utilized.

If any member of the JM team identifies that the Jumper's USLM is not stowed in a safe manner to exit the A/C, a Safety will attempt to fix the deficiency. If unable to be corrected in time the PJ will scratch that Jumper, move them to the forward portion of the aircraft, and ensure they have their seatbelt fastened BEFORE the paratroop doors are opened.

- F. "CHECK EQUIPMENT!" This is the Jumper's last opportunity to inspect their equipment before exiting the A/C. Jumpers will perform the following actions:
 - 1. Swipe the front, outer rim of the helmet shell for any sharp or protruding edges.
 - 2. Trace the chin strap assembly, making sure the chin strap fastener is secure and tighten the chin strap assembly if necessary.

If the inspection of ALL USLMs are not complete by the time the JMs are given the paratroop doors by the USAF, that pass will be aborted. Safeties must work efficiently and have great attention to detail when performing inspections. Do not compromise safety or cut corners on inspections for the sake of time. Issues with the USLM can result in serious injury or death.

- 3. Check the chest strap, ensuring the two three finger quick release is properly stowed in its webbing retainer, that there is a quick release incorporated, and the free running end is S-folded with the tabbed portion facing the friction adaptor.
- 4. Inspect the quick release in the waistband, ensuring that it is easily accessible.
- 5. Inspect the activating levers on the leg strap ejector snaps to ensure they are properly seated.
- 6. Check the ejector snap of the HPTLL to ensure the activating lever is fully seated and the yellow safety lanyard to facing outward and easily accessible to the Jumper.

The JMs must ensure all movement has ceased to allow all Jumpers enough time to do a complete check of their equipment. Do not rush your Jumpers!

- G. Once all movement has ceased, the JMs will issue a thumbs up to each other with the confirmation that "ALL MOVEMENT HAS CEASED!" The JMs will then move immediately into checking their own equipment.
- H. "SOUND OFF FOR EQUIPMENT CHECK!" The last Jumpers on both inboard and outboard personnel will begin tapping the Jumper in front of them on their fourth point of contact and sound off with "OK!" Jumpers will not send a confirmation to the next Jumper until they receive a confirmation from the Jumper behind them. Special coordination must occur to ensure that inboard does not get overlooked when sending up the "OK!"
 - C-130 series A designated Jumper, per the seating diagram, will receive two taps and "OK!" confirmations (one from the Jumper to their rear and one from the front most Jumper on the inboard). This Jumper must be briefed to wait for both confirmations before sending up their tap and "OK!" Once the number one Jumper gets their confirmation, they will hold their free hand out at the elbow locked position at shoulder

height, parallel to the floor of the AC and give the confirmation to the JM, "ALL OK, JUMPMASTER!"

- C-17 Globemaster III Due to the extra space in the cargo compartment of the airframe, the JMs will wait till both outboard and inboard anchor line cables give an "ALL OK, JUMPMASTER!"
- 3. The JM will then swing their inboard hand around and make contact with the number one Jumper's outreached hand, making a positive confirmation that equipment check is complete for all Jumpers.
- I. Once this is done, the JMs will secure their USLM with their outboard hand, bypassing the outboard anchor line cable and forming an "O" around the inboard anchor line cable. Following their "O" as they carefully walk backwards, secure the USLM in the outboard hand and form a bight, as previously described. The following procedures must be conducted to face the paratroop door while maintaining proper static line control:
 - 1. Once the appropriate bight is formed with the outboard hand, the JM will make a 180 degree turn towards the skin of the aircraft to face the paratroop door.
 - 2. After turning, use the free hand to remove the half twist that was incorporated into the USLM and complete a USLM inspection from the USL snap hook to over the inboard shoulder.
 - Once complete, keep your inspection hand on the USLM and issue the number one Jumper the supplementary command of, "NUMBER ONE JUMPER, CHECK MY STATIC LINE!"
 - 4. The number on Jumper will then conduct a USLM check on the JM in the same fashion as previously described under "CHECK STATIC LINES".
 - 5. Once the number one Jumper completes their check, the corresponding Safety for the JM will conduct a complete check of the JMs USLM as previously described. The JM will continue to maintain their free hand on the USLM at the point it is routed over the correct shoulder until the Safety completes their inspection and makes hand to hand contact with the JM. Before the JM regains ripcord handle awareness, they will hold their hand out to the side to remind the Safety to confirm that the T-11R parachute tuck tab inserts are properly placed.

If the JM is equipped with a T-11R "single pin" parachute, the tuck tab insert check is not required.

- 6. The JM will then regain ripcord handle awareness and stand in a rest position awaiting the USAF to transfer control of the paratroop door to them.
- J. Once control of the paratroop door has been transferred from USAF to USA the JM will fully extend their arm at the elbow locked position and issue the supplementary jump command of "SAFETY, CONTROL MY STATIC LINE!"
 - 1. The Safety will gain control of the JMs USLM by making eye to eye contact with the JM and then secure the ULSM with one hand before and one hand after the "four in the hand, two below" bight. This is also known as the "trifecta of knuckles".



Figure 6.6a – Trifecta of Knuckles on the Left Paratroop Door

- 2. Once secure, the Safety will break the JM's bight and ensure that the USLM remains taut between the USL snap hook and the JMs pack tray. The trail hand should be held high in the vicinity of the USL snap hook and the lead hand should be held low near the pack tray. Both hands will be in knife cutting edges, palms facing outward, finger tips pointed skyward, and the USLM secured between the thumb and the palm.
- K. The JMs will move into conducting paratroop door checks. During paratroop door checks, the Safety will maintain positive control of the JM's USLM while maintaining their head and eye on their stick of Jumpers. The Safety must utilize their peripheral vision to move with the JM as they perform their paratroop door check while watching all Jumpers for any unsafe actions or malfunctions of equipment (negligent activation of the T-11 reserve parachute, excess USLM unsecured, etc.).

At no time will a Safety secure or control USLM by encircling the USLM with their fists.

- 1. C-130 series- the JM will utilize the following procedure for paratroop door checks:
 - 1. With the outboard hand, secure the lead edge of the paratroop door. Then rotate into the paratroop door and secure the trail edge with the opposite hand.
 - 2. Square off with the paratroop door, ensuring that both feet are behind the yellow caution tape on the jump platform.
 - 3. Remove the lead hand from the lead edge of the paratroop door and conduct a check of the "push in and pull" (PIP) pin is in the door release lock position and not in its storage positon (it will be in the position closest to the door up-lock, preventing its activation).
 - 4. Re-secure the lead edge of the paratroop door with the lead hand.
 - 5. With the lead foot, kick the lead down-lock on the jump platform, ensuring it is fully engaged. Once complete, ensure the lead foot return to behind the yellow caution tape on the jump platform.
 - 6. With the trail foot, perform the same check on the trail down lock of the jump platform.
 - 7. Immediately move the trail foot to the center of the jump platform and step down once, ensuring it is in the full down position and secured to the A/C. Maintain the trail food centered on the jump platform and the lead foot behind the yellow caution tape.

- 8. Place the trail hand in a knife cutting edge to the top corner of the trail edge of the paratroop door. Trace the trail edge down until contact is made with the trail down-lock of the jump platform, then back up to the start position for any sharp or protruding edges that could cut for fray the Jumper's USLM upon exiting the A/C. Once satisfied with the inspection, re-secure the trail edge of the paratroop door.
- 9. The JM will turn their head forward to give a visual confirmation that the wind deflector is extended to approximately 15.5 inches.
- 10. Move into the initial clear to the rear check next. Reach out at the elbow locked position, fully extending out of the paratroop door and conduct a visual check for any hazards that could interfere with Jumpers in the air. The JM is responsible for 360 degrees of awareness once the clear to the rear checks are conducted.

Safeties! Continue to monitor your Jumpers and do not watch the JM conducting the paratroop door checks!

- C-17 Globemaster III The JM will utilize the following procedures for paratroop door checks:
 - 1. Visually inspect the interior angle gauge and verify that the wind deflector is at 35 degrees (+) or (-) five degrees (see Figure 6.6a).



Figure 6.6b – C-17 Globemaster III Wind Deflector Interior Angle Gauge

- 2. With the outboard hand, secure the lead edge of the paratroop door. Then rotate into the paratroop door and secure the trail edge with the opposite hand.
- 3. Once squared in the paratroop door, remove the trail hand and secure the paratroop door lifting bar while simultaneously watching the paratroop door up-lock and pull down once. Return the trail hand to the trail edge of the paratroop door. If the jumpmaster is too short to do this safely, they will not be assigned any duty on the C-17 Globmaster III.

Only pull down on the lifting bar once and do not make an up and down motion.

4. Release the lead hand, form a knife cutting edge, fingers extended and joined, palm facing the skin of the aircraft, and place it at the 12 o'clock position on the exterior of the paratroop door. Trace from the 12 o'clock position, down to the trail edge of the paratroop door, to the six o'clock position centered on the jump platform. Then, reverse your trace back to the 12 o'clock position for any sharp or protruding edges that may cut or fray the Jumper's USLM upon exiting the A/C. Once satisfied with the inspection, re-secure the lead edge of the paratroop door with the corresponding hand.

When checking for sharp or protruding edges on the paratroop door, the JM may be required to turn slightly to conduct a complete check. Ensure that the working hand does not break contact with the paratroop door and that the back does not turn so much that it is exposed to the open paratroop door.

- 5. Next, move your lead hand to the handle provided on the inside lead edge of the paratroop door. This is a mandatory safety control point for paratroop door checks.
- 6. Walk out onto the jump platform with both feet, locking both elbows, and stand outside of the A/C. Conduct your initial clear to the rear. The JM is responsible for 360 degrees of awareness once the clear to the rear checks are conducted.

Safeties! Continue to monitor your Jumpers and do not watch the JM conducting the paratroop door checks!

- L. Once the JM returns to inside the A/C, they will acknowledge their Jumpers by looking at them and giving a head nod, then turning their head towards the aft end of the A/C and acknowledging their Safety in the same manner.
- M. Once all acknowledgements have been given, the JM will take up a rest position in the paratroop door by maintaining their trail foot centered on the jump platform, lead foot fully inside the A/C, and both hands securing their corresponding edges of the paratroop door. JMs will stay in this position and begin scanning for their one minute and 30 second reference points.
- N. Once the one-minute reference point is identified, both JMs will remove their lead hand from the paratroop door, turn inboard, and hold up their hand, making a first with their index finger extended, making a positive confirmation that both JMs have identified their reference point before turning their lead hand towards the Jumpers and issuing the time warning of, "ONE MINUTE!" Jumper must maintain ripcord handle awareness and then echo the time warning towards the forward portion of the A/C. Once complete, reassume the rest position.
- O. Once the 30 second reference point is identified, both JMs will remove their lead hand from the paratroop door, turn inboard, and hold up their hand, making a fist with their thumb and index fingers extended and held approximately one two inches apart making positive confirmation that both JMs have identified their reference point before turning their lead hand towards the

Jumpers and issuing the last time warning of, "30 SECONDS!" Jumper must maintain ripcord handle awareness and then echo the time warning towards the forward portion of the A/C.

- P. Immediately following the "30 SECONDS!" time warning, the JMs will conduct their final clear to the rear in the same fashion as previously described for the initial clear to the rear for the corresponding airframe.
- Q. Once the JMs have confirmed that they are set over the correct DZ and it is free of any hazards, both JMs will take a step back with their trail foot, release their hands of the paratroop door and face forward toward their Jumpers.

For C-17 Globemaster III operations, the JMs will monitor the jump caution lights until the amber light is illuminated. No Jumper will be rotated into the paratroop door until both amber jump caution lights are illuminated and the JMs acknowledge each other with a thumbs up. Do not issue the command "Standy By!" until the amber lights are illuminated!

- R. The JMs will extend their inboard arms at the elbow locked position, forming a fist with their thumbs extended, and then make eye to eye contact to confirm with each other that their final clear to the rear was satisfactory.
- S. Both JMs will immediately then issues the jump command of, "STAND BY!"
- T. The corresponding Safety will then make a high bight for the JM to secure by tracing down the USLM with the high hand making a fist, index and middle fingers extended and joined while using the thumb of the low hand to pull the slack of the USLM up, leaving enough room for the JM to secure a high and having a proper "four in the hand, two below" bight.

Safeties must ensure that they do not make such a large window for the JM to secure their USLM that a large bight is formed under the JM's trail hand. This is a safety hazard and must be avoided.

- U. Proper placement of the JMs and Safeties is critical in the safe exiting of Jumpers. This is accomplished by the JMs positioning themselves, so their bodies bisect the lead edge of the paratroop door, planting their feet firmly approximately shoulder width apart. Then and only then will the JM look aft at the USLM the Safety is presenting and secure it with a "four in the hand, two below" bight and hold it high and out of the way towards the aft of the A/C.
- V. The number one Jumper will extend their arm at the elbow locked position, presenting their USLM to the Safety. The Safety will secure the USLM by the "trifecta of knuckles" technique previously shown in figure 6.6a of this section.
- W. The Jumper will then rotate themselves into the paratroop door while the Safety walks along with them, ensuring to control any slack in the USLM that may exist. Once the Safety is in position at the trail edge of the paratroop door, they will motion for the number two Jumper to extend their arm at the elbow locked position and move forward. Ideally, the Safeties' positions should be as follows:

- 1. Rear foot slightly behind the trail edge of the paratroop door with the lead foot forward and back, pointed in an open stance, as to not impede the Jumpers as they move into their first point of performance.
- 2. The trail hand will be pinning back the number one Jumper's USLM in the vicinity of the USL snap hook against the intermediate anchor line support bracket with a knife cutting edge, palm facing towards the aft of the A/C.
- 3. The lead hand be in a knife cutting edge and should be making contact with the number two Jumper's double sewn reinforced portion of the USLM. Continue to motion to the number two Jumper to move forward until hand placement is correct.
- X. The PJ will extend their free arm out in-between the number one and number two Jumpers watching the lead set of jump caution lights on the paratroop door. The AJ will have their arm extended out in-between the number one and number two Jumpers on the opposite paratroop door however, the AJ will be looking either over or under their arm controlling their USLM, watching for the PJ to release their number one Jumper.
- g. "Green light". If the first parachute suspended object is an A-series container, reference paragraph 6.7

 Exiting Door Bundles. For the purpose of this section, the release procedure is based on a mass tactical, Jumper only release.

The first parachute suspended object MUST be released from the PJ's paratroop door (unless utilizing a static PJ on a JM Proficiency line)

- i. Once the final jump command of "GO!" is given, the JMs must stay on high alert and remain vigilant of their surroundings. A great deal of action is occurring at the same time. The JMs must be able to identify issues and respond quickly and appropriately to those issues. Fast and appropriate action can be the difference between life and death.
 - A. "GO!" Although the actions of each position are listed separately, the actions of the entire JM team happen almost simultaneously.
 - 1. Actions of the PJ. Once the green light is illuminated on the lead set of jump caution lights, the PJ will tap the Jumper on their fourth point of contact and simultaneously give the verbal command of "GO!"
 - 2. Actions of the AJ. Once the PJ releases their number one Jumper, the AJ will give the same "tap and GO!" half of a second later.

Ensuring and maintaining the half second interval between paratroop doors is vital in the safe exit of Jumpers. When the interval is lost, Jumpers exit simultaneously and have a high risk for collisions and entanglements.

3. Actions of the Safeties. Immediately, upon the Jumpers exiting, the Safety will begin pulling the number two Jumper's USLM aft of the paratroop door while maintaining the knife cutting edge. Once the lead hand reaches the front of the Safety's face, transition

Always maintain knife cutting edges when controlling or "raking" USLMs. Using encircling grips can pull the Safety off balanced and lead to an inability to control the following USLMs or possibly pulling the Safety out the paratroop door.

control of the USLM to the rear hand. This is done by maintaining the knife cutting edge and pulling the USLM rearward. As the rearward hand takes control of the USLM, the lead hand must immediately move forward in order to gain control of the next Jumper's USLM.

- ii. Maintaining the safe exiting of Jumpers throughout "green light". The JMs and Safeties are overall responsible for maintaining safe exiting procedures, identifying safety hazards, and taking appropriate actions when they occur.
 - A. Actions of the JMs. The JMs are responsible for observing the exiting procedures and giving feedback to the Jumpers as they approach the paratroop doors. The JM must monitor safety for their entire chalk by doing the following:
 - 1. Consistently check the current status of the jump caution light. If the light changes to red they will issue the command of "RED LIGHT! RED LIGHT! RED LIGHT!" While holding their hand high in the Jumper's face. (The JM will not physically get in the way of the Jumper to attempt to stop their exit. This will cause a hazard in the paratroop door.)
 - 2. Continually check to see if there are any towed Jumpers. Look to see if all USLMs are in the top corner of the trail edge of the paratroop door. Towed Jumpers/other items will generally cause it's USLM to ride lower on the trail edge due to its weight and drag.
 - 3. Ensure that Jumpers are making good eye to eye contact with the safety, properly transferring control of their USLM with the Safety, maintaining their spacing between each other. Utilize loud, verbal instructions to maintain gaps between Jumpers and to remind Jumpers of proper performance measures.
 - 4. Monitor down the stick for possible emergencies or issues, such as tripped/fallen Jumpers, activated reserve parachutes/equipment, etc.

If the JM recognizes any issue that could pose a hazard to a Jumper in any way, the JM must issue the command of "RED LIGHT! RED LIGHT! RED LIGHT!" while holding their hand high in front of the Jumper's face.

5. If the JM issues the "RED LIGHT!" command, they will immediately start guiding the Jumpers back towards the forward portion of the A/C to clear the paratroop door. The Safety will then conduct a towed Jumper check before addressing the safety concern. Ensure the safety concern is addressed before retrieving the deployment bags from the paratroop door.

Even if the Safety notices a loss of static line control, the Safety will still make every attempt to regain control of the USLM to remove the hazard from the paratroop door. The Safety will only yell out "RED LIGHT! RED LIGHT! RED LIGHT! to notify the JM to also issue the "RED LIGHT!" command and begin moving Jumpers back from the paratroop door. The Safety will never move in front of the paratroop door and hold their hand up to issue the "RED LIGHT!" command and hand signal.

B. Actions of the Safety. The Safeties are responsible for performing the safe and efficient controlled transfer of the USLM from the Jumper as they move into their first point of performance. It will take the Safety's full attention to continue to positively control the rapid transfer of the Jumpers' USLMs and will engage the JM to issue a "RED LIGHT!" if they lose control of a USLM and the JM does not recognize it in a timely manner. No matter the situation, the Safety will always conduct a towed Jumper check after the last parachute suspended object has exited the paratroop door (after a "RED LIGHT!" stop, when the last Jumper of the pass exits, when the A/C has completely emptied, etc.).

- iii. Exiting of the JMs. Once the last Jumper of the JMs stick exits their paratroop door the following actions will occur:
 - A. The JMs will:
 - 1. Sweep or "rake" their USLM, first towards the forward portion and then rearward, to gain separation from the Jumpers' ULSM. This will make the JMs USLM clearly separate from the others attached to the inboard anchor line cable.
 - 2. Make eye to eye contact with the Safety, ensuring the Safety successfully secured their USLM with the "trifecta of knuckles".

After the Safety secures the USLM from the JM, they will continue to control the slack with both hands in knife cutting edges facing towards the skin of the A/C, pinching the USLM with the thumbs of both hands ("Crabby Hands"). This will facilitate the easy removal of the USLM from the Safety. Never secure any USLM of an exiting Jumper with encircling hands.

- 3. Center themselves into the paratroop door.
 - a. The AJ will then look down their side of the A/C towards the forward portion, acknowledging that all Jumpers have successfully exited, turn their head, acknowledging that the trail jump caution light is still illuminated green, and make a vigorous exit out their paratroop door.

Between racetracks, the JM who has control of the paratroop door must take up a good bight of their USLM and move forward enough as to not interfere with the proper use of the TPRS while retrieving the deployment bags. No one should disconnect the USL snap hook from an anchor line cable until the paratroop doors are closed.

Under most scenarios, the PJ will not exit until all Jumpers have exited the A/C. Situations where a PJ may exit with Jumpers still onboard are; Jumper unable to exit due to injury/illness; equipment malfunctions preventing the Jumper from exiting safely; jump refusals; or any PAX that would then become considered an alibi, if, and only if, the Airborne Commander previously approves.

B. The PJ will watch over their lead shoulder to visualize their AJ exit, then turn their head towards the forward portion of their side of the A/C, acknowledging that all Jumpers have successfully exited, turn their head, acknowledging that the trail jump caution light is still illuminated green, and make a vigorous exit out their paratroop door.

iv. The Safeties will then:

A. Immediately perform a towed Jumper check.

- 1. If a towed Jumper is discovered, the Safety will immediately gain the attention of the Loadmaster to begin retrieving the towed Jumper and to notify the pilot of the situation.
- 2. If there is no towed Jumper, the Safeties will rotate into the towards the center of the cargo area by taking a step inward with the trail foot, release the edges of the paratroop door and rotate inward, facing the forward portion of the A/C. Once rotated, they will raise their inboard arms at the elbow locked position, forming a first with their thumb extended and hold it there until the opposite Safety returns the same confirmation.
- B. Then and only then will the retrieval of the deployment bags occur. Ensure that the USLM/deployment bag combos are pulled towards the forward portion of the A/C and the paratroop doors have been closed before disconnecting the USL snap hooks from the anchor line cables.

If time permits after the paratroop doors are closed, the Safeties may begin to neatly fold the USLM on top of the deployment bag and then roll them before storing them into the AKB or the UPRB. If quick removal of air items is required, the Safeties may quickly secure them in the AKB or UPRB and roll them once they return to the DAF.

C. After all air items have been retrieved and secured appropriately, the Safeties will:

- 1. Turn off the digital media capturing devices.
- 2. Assist the Loadmaster in returning all seats to their original configuration, if required.
- 3. Get the name, rank, unit, DoD ID number, and reason for any alibi Jumpers left on the A/C. Have the pilot relay that info to the DZSO/DZSTL.

Ensure all USLMs are inspected upon removing their USL snap hooks from the anchor line cables. If any portion is broken or a component is missing (for example: USL snap hook found without a USLM attached), immediately notify the Loadmaster to relay that information to the DZSO/DZSTL. Stop removing USL snap hooks for from the anchor line cable for an investigating officer to inspect as part of the investigation.

- D. Once the Safeties return to the DAF, they will conduct a police call of the A/C, secure all USA equipment, and be escorted back to the PAX shed to report to the DACO.
- h. Contingency/emergency operations. Due to the unpredictable nature of weather, maintenance/serviceability of equipment, and other factors, the JM team must be prepared to identify and address many contingency and emergency issues that can occur. This paragraph is not all inclusive. JMs must draw from their experience and ever changing TTPs to be able to make the best possible decisions and take the most appropriate action necessary to complete the mission as safe as possible.

- i. JMs must be prepared for "green lights" to come on early or late. Remain flexible if "green light" time is decreased by up to 10 seconds and have a plan to appropriately address alibi Jumpers to maintain the Airborne Commander's scatter plan. Consider the following:
 - A. If the last few Jumpers of a pass were maintained on the A/C due to a red light, reposition them towards the end of the second pass to maintain their place on the DZ per the scatter plan.
 - B. If only a few Jumpers exit and the pass is aborted, maintain stick integrity and delay the release at "green light" to place the Jumpers in their appropriate placement on the DZ
 - C. In situations that preclude Jumpers from exiting during the last pass (equipment fouling, medical reasons, etc.), those Jumpers will be considered alibis and control is transferred from the PJ to the Safeties. This allows for the JMs to exit the A/C based on the Airborne Commander's intent/approval.
- ii. Ground evacuation. Ground evacuations occur when the A/C is in preparation for flight but has not taken off. This can happen after loading, taxiing, or during the start of take-off. Take the following measure in the event of a ground evacuation.
 - A. A long, continuous bell ring will be initiated in the A/C. This is the USAF's command to exit the A/C. DO NOT attempt to exit the A/C until the long bell ring has begun, as an unsafe condition may exist outside of the A/C placing the Jumpers into a dangerous situation. When in doubt, check with the Loadmasters before acting.
 - B. Follow the directions of the Loadmasters to clear the A/C and immediately gain positive accountability of all PAX and equipment. Utilize a copy of the DA Form 1306 to maintain accountability of those Jumpers with CE vs Hollywood Jumpers.
 - 1. When all PAX and equipment is accounted for, the PJ will signal to the Loadmaster with either a "thumbs up" or a "touchdown" symbol with both hands and arms extended up at the elbow locked position.
 - 2. If the JM team is unable to get 100% accountability due to missing equipment or PAX, the PJ will signal to the Loadmaster a "thumbs down" or an "incomplete pass" signal by waving both arms in the crossing movement in front of the body.
- iii. Emergency bailout. Abandoning the A/C while in flight occurs when the A/C is no longer air worthy, and enough altitude exists to safely exit Jumpers. Take the following actions in the event of an emergency bailout:
 - A. The Pilot may have time to warn the JM team for the possibility of needing to conduct an emergency bailout. If this occurs, the JM team must remain calm and review procedures prior to execution, as time permits.

JMs need to brief the Jumpers on the situation to have them prepared to conduct a safe exit. If able, review emergency landings (tree, wire, and water landings) as well, as many hazards will exist over unfamiliar ground.

B. Three short rings of the emergency bell will be rung, signaling to the JM team to begin to act. The JMs will hook up to their appropriate anchor line cable and issue the abbreviate jump commands of "STAND UP! HOOK UP!"

- 1. Jumper may struggle under the high stress of emergency bailout operations. Remind Jumpers to hook up at the most convenient anchor line cable as possible.
- 2. If a Jumper is unable to connect their USL snap hook to an anchor line cable in time, they can always assume a good first point of performance and activate their reserve parachute upon exiting.
- C. The Loadmasters will then prepare the paratroop doors for exiting procedures.
 - Safeties may be the first to exit the A/C to allow for maximum altitude for AEBP deployment. If that is the course of action, place the Safety in the paratroop door prior to the command of "GO!"
 - 2. If the Safeties are not the first parachute suspended object, it is highly suggested to place a Senior Leader in the number one Jumper position to facilitate accountability once on the ground.
- D. Once a long, continuous bell is rung, the JMs will issue the command of "GO!" and, if appropriate, the Safeties will exit followed by all Jumpers.
 - Jumpers will vigorously throw their USL snap hooks towards the aft end of the A/C to reduce the possibility of a USLM injury/towed Jumper regardless if the Safeties are first to exit or not.
 - 2. Do not attempt to control the speed and spacing/timing of Jumpers exiting the A/C. Jumpers must exit as quickly as possible.

The PJ will be the last USA PAX to leave the A/C after they confirm that all Jumpers have exited. Do not leave any fellow Jumpers on the A/C.

- E. Once the PJ conducts their fifth point of performance, they will derig and begin moving towards the number one Jumper based on the path of flight observed after exiting. The number one Jumper/Safeties will begin working towards the PJ based on the same flight path, gaining accountability and assisting Jumpers as necessary.
- iv. Water landing/ditching. Ditching procedures will occur when the A/C is deemed no longer air worthy by the pilots, but there is not land available to Jumpers (flying over large bodies of water). Pilots, under most conditions, will be able to give a warning prior to performing a water landing. The Loadmasters will perform appropriate measures to prepare the A/C and all PAX for landing in the water. Conduct the following actions:
 - A. Expect the Pilot to order all unnecessary equipment to be jettisoned in order to lighten the A/C. The JM team will assist the Loadmasters in accomplishing this as quickly as possible.
 - B. The command to assume a good crash-landing position is six short rings of the emergency bell. All personnel will be sat in their seats, seat belts tightly fastened, with their helmets secured on their heads and assume a crash-landing position:
 - 1. PAX will extend their legs out straight, at a 45 degree angle from the edge of the seat.
 - 2. PAX will lean forward as much as possible, attempted to rest their heads in their laps.
 - 3. Place both hands underneath their corresponding legs near the knees.

- C. Prior to impact, one long, continuous ring will be sounded. PAX will brace for impact, leaning toward the forward portion of the A/C as much as possible.
- D. Once the A/C stops moving, take all commands from the Loadmasters for safe evacuation utilizing the water extraction equipment on the A/C. Only exits that are approved for use during water exits will be utilized and may be limited due to A/C position, damage that occurred during landing.

On C-130 series A/C, PAX seated on the starboard side will have better access to the center escape hatch than those on the port side. Port side personnel will have access to the forward escape hatch located in the pilot's compartment.

- E. Life rafts will deploy from the top of the wings of the A/C. Each raft has a maximum capacity of 20 PAX per. Do not overload the boats.
- v. Crash landing. Crash landings occur when the A/C is no longer deemed air worthy by the pilots, but not enough altitude exists for the safe exiting of Jumpers to allow for the proper activation of their parachute systems (see figure 6.6a Minimum Altitudes for Exit). Ensure that is this covered during the JMB with the USAF prior to take-off. Utilize the following procedures in the event of a crash landing:

Type of A/C	Type of Parachute	Minimum Altitude
C-130 Series (all)	T-11 ATPS	550 feet AGL
	MC-6 PPS	475 feet AGL
C-17 Globemaster III	T-11 ATPS	525 feet AGL
	MC-6 PPS	475 feet AGL

Figure 6.6a – Minimum Altitudes for Exit

- A. In most instances the pilots will be able to give an advanced warning that a crash landing is imminent. The Loadmasters will begin preparing the A/C and all PAX for the crash landing. The JM team must allow the Loadmasters to perform their duties and focus on keeping control of the Jumpers.
- B. Six short rings of the emergency bell will signify that a crash landing is about to occur. All PAX will be secured in their seats as previously stated in water landings and assume a good crash-landing position.
- C. Prior to impact, one long, continuous ring will be sounded. PAX will brace for impact, leaning toward the forward portion of the A/C as much as possible.
- D. Once the A/C stops moving, take all commands from the Loadmasters to exit the A/C. The JMs must direct USA personnel in a safe direction and distance to clear the A/C and gain accountability of all PAX and equipment. Exit the A/C as quickly as possible and run to an assembly area to avoid any hazards the damaged A/C may pose.
- E. Utilize a copy of the DA Form 1306 to maintain accountability of Jumpers.
- vi. Fire on the A/C. If a fire occurs on the A/C, take directions for the Loadmasters and assist in moving Jumpers away from the hazard. Do not attempt to fight any fires, as it is the Loadmaster's job to perform these duties. Maintain accountability of the Jumpers and give the Loadmasters space to extinguish the fire. Be prepared to conduct emergency bailout procedures or to conduct a crash landing if the A/C becomes unworthy for flight.

6.7 Exiting Door Bundles

 Conducting proper cross load of equipment across the chalk and properly selecting items to be placed in door bundles is an excellent way to reduce Jumper weight while delivering maximum firepower to the DZ. Ensure that all door bundles are rigged IAW Chapter 12 of this SOP and are loaded appropriately per the Airborne Commander's scatter plan.

a. A-series containers.

General rules. When exiting door bundles in a training environment, follow these general exiting rules for safe delivery of equipment to the DZ:

- i. When exiting door bundles and utilizing a number one Jumper to assist, the number one Jumper MUST be a qualified Jumpmaster and must have T-11R parachute tuck tab inserts.
- ii. No more than two door bundles should be exited from a paratroop door for a maximum of four door bundles per A/C IOT preserve greenlight for the Jumpers.
- iii. Door bundles will not be exited after Jumpers have landed on and still occupy the DZ!
- iv. Depending on the formation of A/C, door bundles can only be released per:
 - a. Offset trail formation Only the first three A/C will exit door bundles for formations of three or more A/C.
 - b. Trail formation Only the first A/C will exit door bundles for formations of ANY size.
- v. The minimum altitude for dropping door bundles from a fixed wing, high performance A/C is 300 feet AGL.
- vi. Maximum dimensions for a door bundle are 30 inches wide, 66 inches tall, and 48 inches in depth to include the cargo parachute being utilized, with a minimum weight of 11 pounds per square foot.
- 2. **Exiting procedures.** Although the PAX utilized to exit door bundles may vary, the procedure remains largely the same. Airborne Commanders and MJMs must evaluate their JM team and the Jumpers they have available to make the best decision on who will be assisting in the safe exit of door bundles for their specific airborne operation.
 - a. **20-minute time warning.** The Safeties will perform the following actions under the supervision of the PJ:
 - i. Un-lash each bundle and place it in the vicinity of the paratroop door to be exited from.
 - ii. Conduct a final TI of the bundle. Correct any deficiencies found. If deficiencies cannot be corrected, notify the PJ for a decision to scratch the bundles from exiting the A/C.

Do NOT place door bundles in the paratroop door before their Universal Static Line is connected to the anchor line cable and under the control of its assigned exiting PAX.

- iii. Remove the data card from the load.
- iv. If dropping at night, activate the chem lights or another beacon device being utilized.

- v. Depending on the parachute system being utilized, the Safety will:
 - A. T-10 modified cargo parachute Connect the USL snap hook to the outboard anchor line cable.
 - B. 68-inch pilot parachute Attach the G-13 clevis to the outboard anchor line cable by:
 - 1. Removing the clevis locking pin (cotter pin) and clevis pin.
 - 2. Route the G-13 clevis around the outboard anchor line cable with the "U" shape facing the deck of the A/C.
 - 3. Reassemble the G-13 clevis, ensuring the locking pin is bent down securing the clevis pin in place and that the clevis pin is facing inboard.



Figure 6.7a - G-13 clevis

- C. Once the bundle is hooked up, position it as close to the paratroop door as possible, ensuring it does not interfere with the JM conducting their paratroop door checks. When placing the bundle, ensure it is oriented in the same fashion that it will be exited on its end with the parachute facing inboard.
- i. After the command of "STANDBY!" two different PAX packages may be used to exit door bundles:

A. Number one Jumper and Safety.

- 1. The JM utilizes their free hand to secure the number one Jumper's USLM, holding it high and out of the way.
- 2. The Safety and number one Jumper will position the bundle as far out on the jump platform as possible while maintaining control. The Safety will be towards the trail edge of the paratroop door and the number one Jumper will be at the lead edge side.
- 3. On the jump command of "GO!" the Safety and number one Jumper on the PJ's paratroop door will exit their door bundle.
- 4. The AJ will be watching over their lead shoulder to ensure the PJ's bundle has exited before giving the command of "GO!" for their bundle.
- 5. If two door bundles are to be exited, the Safety will immediately position the next bundle on their jump platform and immediately exit it with the assistance of the number one Jumper while the JMs continue to monitor the jump caution lights and safely control USLMs.

- B. **Safety alone.** It is suggested that two Safeties be utilized per paratroop door to assist with heavy loads.
 - 1. The Safety or Safeties will position the door bundle as far out on the jump platform as possible while maintaining control in the same fashion as previously described.
 - 2. On the jump command of "GO!" the Safety and number one Jumper on the PJ's paratroop door will exit their door bundle.
 - 3. The AJ will be watching over their lead shoulder to ensure the PJ's bundle has exited before giving the command of "GO!" for their bundle.
 - 4. If two door bundles are to be exited, the Safety/Safeties will position the next bundle on their jump platform and immediately exit it while the JMs continue to monitor the jump caution lights.

If a bundle gets lodged in the paratroop door, the Safety will attempt to free and exit the bundle from the paratroop door.

If this cannot be accomplished, the bundle will be secured back inside the A/C to facilitate the exiting of Jumpers. The bundle will not be exited due to possible damage the bundle may have sustained in the door.

Towed bundles outside the aircraft will not be retrieved back inside the A/C. If there is a towed bundle, the paratroop door will be turned over to AF Loadmasters for action.

- ii. Safeties will then conduct a towed bundle check. This is done by observing the USL positioning on the trail edge of the paratroop door from inside the A/C (there is no need to conduct a clear to the rear check, as utilized after releasing Jumpers). If the bundle is clear, the USL will be up towards the top of the trail edge of the paratroop door from the resistance and lift generated by the deployment bag. If a bundle is being towed, the USL will be lower on the trail edge and a noticeable banging noise may be heard as the bundle contacts the outside skin of the A/C.
- iii. Once a towed bundle check has occurred, if required, the JM will give control of the number one Jumper's USLM to the Safety and place the number one Jumper in the paratroop door.
- iv. The PJ will then look over their trail shoulder at the AJ's paratroop door to ensure that the opposite door bundles have been cleared.
- v. Once the opposite door bundle has been cleared the PJ will reconfirm that the AJ is back in position to exit Jumpers with their number one Jumper in position, that the green jump caution light is still illuminated on the PJ's lead edge of the paratroop door and then issue the number one Jumper a tap and "GO!"
- vi. The AJ will then issue their tap and "GO!" in the same manner that would be used when conducting normal exiting procedures for Jumpers.

Close monitoring of the jump cautions lights must be made by the JMs due to the extra green light used to exit door bundles.

2. **Caster Assisted A-series Delivery System (CAADS).** The CAADS was developed by the 82nd Airborne Division to ease the handling and delivery of heavy door bundle loads to the DZ.
- a. CAADS are approved for both the C-17 Globemaster III and C-130 series A/C.
- b. CAADS cannot be exited over the ramp (OTR).
- c. Aircraft tie down ring pans must be installed on the A/C floor prior to the airborne operation.
- d. Two Safeties should be utilized when exiting a CAADS pending the proficiency of the Safety, and the availability of seats.
- e. **Prior to loading**. Inspect the overall condition of the CAADS to include the dolly, felt padding, casters and foot brake. Rigging and securing of the cargo parachute will be IAW Chapter 12 of this SOP.
- f. Loading procedures. CAADS have been authorized to be exited from the paratroop doors of both C-17 Globemaster IIIs and C-130 series A/C.
 - i. All CAADS will be faced in the same orientation as if they were Jumpers (modified T-10 cargo parachute and foot brake facing away from the paratroop door).
 - ii. Once positioning appropriately, the following must occur to properly secure the CAADS:
 - 1. Forward, aft, and vertical CGU1-B straps will be utilized to secure the CAADS in place.



Figure 6.7b – CAADS Secured with CGU1-B

- 2. Utilizing at least once length of type II or type III nylon cord gutted (550 cord) secure the front of the CAADS to the tie down rings on the floor of the aircraft. Cordage must be used to secure the front of the platform to a tie down ring on the aircraft floor with a non-slip knot. This braces the CAADS after the CGU1-B have been removed at the 20-minute time warning.
- iii. C-17 Globemaster III. Up to two CAADS may be exited per paratroop door for a total of four CAADS per A/C.
 - 1. When only one CAADS is to be exited from a paratroop door, it may be stowed either forward or aft of the paratroop door.

2. When two CAADS are to be exited from a paratroop door, both CAADS may be either stowed forward of the paratroop door or one forward and one aft. NOTE: Three CAADS per paratroop door are not approved on C-17 Globemaster III operations.



Diagram 6.7a – CAADS Placement on a C-17 Globemaster III

- iv. C-130J-30 Super Hercules Up to three CAADS may be exited per paratroop door for a total of six CAADS per A/C.
 - 1. When only one CAADS is to be exited from a paratroop door, it may be stowed either forward or aft of the paratroop door (Stowing aft will preserve seats for Jumpers).
 - 2. When two CAADS are to be exited from a paratroop door, both CAADS may be either stowed forward of the paratroop door or one forward and one aft.
 - 3. When three CAADS are to be exited from a paratroop door, one CAADS will be aft and the other two will be forward of the paratroop door (this will be at the expense of seats for Jumpers).



Figure 6.7b – CAADS Placement on a C-130J-30 Super Hercules

v. C-130H/J Hercules – Up to two CAADS may be exited per paratroop door for a total of four CAADS per A/C. Due to the lack of space aft of the paratroop door, CAADS will always be stowed forward of the paratroop door resulting is loss of seats for Jumpers.



Figure 6.7c – CAADS Placement on a C-130H/J Hercules

- g. During Flight. The following actions will be performed:
 - i. 20-minute warning. The Safeties will:
 - 1. Remove the forward and aft straps, keeping the vertical strap and nylon cord in place.
 - 2. Conduct a final TI of the bundle. Correct any deficiencies found. If deficiencies cannot be corrected, notify the PJ for a decision to scratch the bundles from exiting the A/C.
 - 3. Remove the data card from the load.
 - 4. If dropping at night, activate the chem lights or other beacon device being utilized.
 - 5. Attach the USL snap hook to the outboard anchor line cable.



Figure 6.7c – CAADS Disposition after the 20 Minute Time Warning

- ii. Slow down (six minute for C-17 Globemaster III and three minute 30 seconds for C-130 series A/C). Once the slowdown is complete, take the following actions:
 - 1. Remove the vertical strap, keeping the nylon cord in place.

- iii. After the command of "STANDBY!":
 - 1. The Safety will return control of the USLM to the JM.
 - 2. The Safeties will then cut the nylon cord for all CAADS, leaving the foot brake in place.
 - 3. The Safety for the paratroop door will secure the first CAADS platform (starting with the aft CAADS and moving forward) and rotate the platform into the paratroop door.

Ensure to re-engage the foot brake once the CAADS is properly positioned in the paratroop door. NEVER allow a CAADS to sit "free" on the jump platform.

- iv. Upon the command of "GO!":
 - 1. The PJ will issue the command of "GO!" first.
 - 2. The aft Safety on the PJ's paratroop door will disengage the foot brake and the Safeties will exit the CAADS.
 - 3. The AJ will watch the PJ's door exit completely, then issue their command of "GO!" The AJ's Safeties will perform the same actions as the Safeties on the PJ's paratroop door.
 - 4. If additional CAADS platforms require exiting, the Safety team will immediately secure the next CAADS closest to the paratroop door and exit it without a separate command of "GO!", similarly as if exiting multiple door bundles.

6.8 Jump Refusals

1. A jump refusal is defined as a Jumper who has been to manifest call and voluntarily or willfully refuses to exit the A/C (except for air sickness, physical impairment, A/C malfunction, or air item malfunction). Jump refusals must be handled in a serious, and professional manner as they present themselves as hazards in the A/C. Take the following actions during the airborne timeline to properly address jump refusals.

2. Prior to donning the parachute system.

- a. When a Jumper identifies themselves as unwilling to conduct the airborne operation after being manifested, they will be escorted to the PJ.
- b. The PJ will ask the Jumper, "Are you sure you do not want to jump?" This question will be asked once only. However, the Jumper answers this will be their only opportunity to change their mind from declining to jump and participate in the airborne operation.

Additional opportunities to decide to jump after the initial refusal with the PJ will not be entertained by anyone not in the Jumper's Chain of Command due to the possible hazard that could be presented inside the A/C and the additional risk to the other Jumpers.

c. Based on the Jumper's answer, take the following action:

CAUTION: Close monitoring of the Jumper must be taken to ensure proper rigging of all equipment is completed and tampering of equipment is prevented prior to exiting.

- i. If the Jumper decides to follow through with their obligations as a Paratrooper, they will be returned to their chalk position and allowed to carry on with the airborne operation.
- ii. If the Jumper reaffirms their refusal to jump, the PJ will inform the Jumper, "you are a jump refusal at this time," and notify the Airborne Commander.
- iii. The Airborne Commander (or designated representative) will notify the Jumper's Chain of Command.
- iv. The Jumper's Chain of Command will then have the option, if desired, to talk to the Jumper regarding their recommitment to the airborne mission and their obligations as a Paratrooper.
- v. If the Jumper decides to recommit to the airborne operations, see sub-paragraph i. of this section.
- vi. If the Jumper declines a second time, they will be immediately removed from the rest of the Jumpers and be placed under the control of their Chain of Command for appropriate administrative action.

Administrative action may consist of, but not limited to, removing the Jumper's "P" identifier and their parachutist wings IAW AR 600-8-22.

3. Upon donning the parachute system until "green light.

- a. If the refusal happens before ST, the PJ will not question the Jumper and notify them, "you are a jump refusal". The PJ will then delegate a member of the JM team to escort the jump refusal to the DACO or MACO. No member of the JM team or chalk will attempt to change the jump refusal's decision at this point.
- b. The DACO/MACO will identify the jump refusal and contact the Soldier's Chain of Command. No JMPI or TI is required for a jump refusal at this point.
- c. The Soldier will derig, and the Chain of Command will take appropriate administrative action.

4. If the refusal occurs after "green light", the JM will do the following:

- a. Issue the Jumper the tap and "GO!" jump command three times.
- b. If the Jumper exits, continue to exit additional Jumpers as "green light" permits.
- c. If the Jumper does not exit after the third tap and "GO!" The JM will then instruct the Safety to secure the Jumper by the pack tray. The Safety will issue to the jump refusal, "you are a jump refusal," immediately followed by, "I am removing you from the paratroop door." Immediately and safely remove the jump refusal from the paratroop door.
- d. Once the jump refusal is removed from the paratroop door, the Safety will seat the jump refusal on the ramp of the A/C, leaving the USL snap hook attached to the anchor line cable, and issue the jump refusal the order of "do not touch your equipment". Never unhook anything while the paratroop doors are open!
- e. The JM may continue to exit Jumpers as "green light" permits.

This order is lawful and binding, regardless of the difference in rank between the Safety and the jump refusal. It is good practice to not position the jump refusal so far up the ramp that the digital media capturing device can no longer record their actions for the investigation to follow.

- f. After the retrieval of the deployment bags after exiting has ceased, and the paratroop door is closed, the Safety will escort the jump refusal to a seat that is still easily in the view of the digital media recording device, unhook the USL snap hook from the anchor line cable and attach it to the carrying handle of the reserve parachute.
- g. The Safety will then re-issue the jump refusal the order of, "do not touch your equipment!"
- h. Secure the appropriate seat belt to the jump refusal and prepare for landing.
- i. The Safety for the jump refusal's paratroop door will be solely responsible for monitoring the jump refusal and ensuring they do not foul their equipment.
- j. Once on the ground, the responsible Safety will escort the jump refusal to the DACO/MACO for a JMPI and a current and qualified Parachute Rigger (typically the Parachute Rigger in charge) will conduct a TI for all air items. A good practice is to have the DACO/MACO and Parachute Rigger move to the aircraft to prevent fouling of the jump refusal's equipment.

No member of the JM team or other PAX will question the jump refusal for any reason until they have been informed, fully, of their rights. This is usually the duty of the Investigating Officer (IO).

It is good practice to utilize transportation assets to move the jump refusal to the DACO/MACO or the DACO/MACO and parachute rigger to the jump refusal to prevent fouling of the equipment. If placing the jump refusal in the vehicle, the responsible Safety is still responsible for observing the jump refusal until that responsibility is transferred to the DACO/MACO.

6.9 Extended Racetrack Procedures

- 1. Extended racetracks occur when a "no drop" was given to the air crew by the DZSO/DZSTL and a "reattack" is initiated. Depending on the time frame of the racetrack, the PJ will decide on how to handle their Jumpers with the consideration of Jumper fatigue, equipment/weight on the Jumpers, conditions prior to the airborne operation, etc.
- 2. If the PJ decides that conditions exist to keep the Jumpers standing and hooked up without changing the planned exiting procedures, the following actions will be taken:
 - a. Coordinate with the Loadmaster when the next 10-minute time warning will occur.
 - b. The JMs will begin their jump commands from "CHECK STATIC LINES!" Ensure to allow the Safeties extra time to do a thorough recheck of the USLM for all Jumpers and the ability to re-stow excess USLM appropriately.
 - c. Continue normal jump commands and exiting procedures.

- 3. If the PJ decides that conditions exist to unhook the Jumpers from their anchor line cables or the exiting procedure is altered from the planned exiting procedure:
 - a. The JMs must ensure that the paratroop doors have been closed before taking any action.
 - b. Alert all Jumpers to disconnect their USL snap hooks from their anchor line cables and have the Safeties go down their sides to check USLMs and ensure the USL snap hooks are reattached to the carrying handles of the reserve parachute.
 - c. If the exiting procedures change to mass exit, ensure all Jumpers are aware of the change and move to the mass exit procedures that were rehearsed in SAT.
 - d. When the next 10-minute time warning is given from the Loadmaster, begin all jump commands as appropriate.

6.10 Towed Parachutist Procedures

- 1. The identification of a towed Parachutist and rapid, appropriate response can make the difference between life and death of a Jumper. It is the responsibility of the JM to diligently and continuously monitor Jumpers as they exit for the possibility of a towed Parachutist and to take appropriate action.
- 2. The JM will be monitoring Jumpers as they exit by watching Jumper's eye position (ensuring they are locked on the Safety and not fixated on the paratroop door), switching to the lead set of jump caution lights ensuring it still has the green light illuminated, the conducting towed Parachutist checks by looking at placement of the USLM's position on the trail edge of the paratroop door (towed items will typically not have the USLM in the top corner of the trail edge and give an audible banging or thumping on the skin of the A/C).
- 3. If a towed Parachutist is suspected, the JM will immediately issue the command of "RED LIGHT! RED LIGHT! RED LIGHT!", holding their inboard hand high, at the elbow locked position, in the face of the next Jumper.

No member of the JM team will physically attempt to prevent a Jumper from exiting the paratroop door.

- 4. Once all Jumpers have ceased exiting and have been moved away from the paratroop door, the JMs will immediately notify the Loadmaster to relay to the opposite paratroop door JM and the pilots to take appropriate action (maintain station over the DZ and gain altitude).
- 5. The JM will then direct the Safety to conduct a towed Jumper check in the same manner that would be conducted after a successful pass of releasing Jumpers.
- 6. Depending on the condition of the Jumper and the way they became towed, the JM team will take the following actions:
 - a. If the Jumper is identified as being towed by an item of equipment (MAWC, ALS, jumpable pack, etc.) the JM will cut or jog that item free allowing the Jumper's main parachute system to deploy.
 - b. If the Jumper is being towed by their USLM:
 - i. And the Jumper is unconscious, the Jumper MUST be retrieved back inside the A/C. Take the following action:

- A. Notify the Loadmaster that retrieval procedures must be initiated and assist the Loadmaster in the application of the towed Parachutist retrieval system (TPRS). For C-130 series aircraft, the jump platform must be rotated inside the aircraft before retrieval begins.
- B. In the event of the failure of the TPRS, recruit as many personnel as possible to assist in the retrieval of the Jumper by the USLM.
- C. Ensure anyone assisting is hooked up to an anchor line cable, wearing and AEBP, or attached to the floor of the A/C with a safety harness.
- D. Once inside the cargo compartment of the A/C:
 - 1. The paratroop doors must be immediately closed.
 - 2. Separate the Jumper's USLM from the rest of the deployment bags of previously released Jumpers.
 - 3. If an in-flight Medic is onboard, have them take appropriate action. If not, identify a jumping Medic or CLS, have them derig and begin to administer aid as appropriate.
 - 4. Have the Loadmaster notify the pilot that retrieval is complete and that they must return to the DAF and coordinate EMS/medical response upon landing.
 - 5. If able, keep the USLM snap hook and deployment bags attached to the anchor line cable.

If possible, keep the USL snap hook and the integrity of the USLM/pack tray intact for the investigation process. However, life, limb, and eye sight is always the highest priority.

- ii. And the Jumper is conscious. This will be identified by the Jumper maintaining a good, tight body position while being towed. Take the following action:
 - A. The first option is ALWAYS to retrieve the Jumper inside the A/C. Notify the Loadmaster that retrieval procedures must be initiated and assist the Loadmaster in the application of the towed Parachutist retrieval system (TPRS).
 - B. If able to retrieve the Jumper, follow the same steps as if the Jumper was unconscious.
 - C. If unable to retrieve the Jumper, their USLM will be cut by the Loadmaster upon the command of the pilot. This is ONLY done if the consciousness of the Jumper is confirmed immediately prior to cutting the USLM and proper positioning/altitude of the A/C is obtained.

6.11 C-17 Globemaster III Single Anchor Line Cable Operations

- C-17 Globemaster IIIs, IAW with TO 1C-17A-9, can support 51 Jumpers per anchor line cable. When
 performing single anchor line cable operations, scatter plans should be reconsidered by the Airborne
 Commander to have odd Jumpers sitting outboard and even Jumpers seated inboard. If conditions prevent
 the Airborne Commander from dictating the load plan, the responsibility then lays on the PJ for the chalk
 being loaded.
- 2. Single anchor line cable procedures MUST be rehearsed during SAT. Ensure Jumpers practice proper offset staggering to allow for all Jumpers to attach to a single anchor line cable without congesting Jumpers at the forward portion of the A/C. Safeties must ensure to direct Jumpers to stack appropriately along the anchor line cable to prevent congestion.

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• Chapter 7. Departure Airfield Control Officer (DACO)

The DACO is the Airborne Commander's representative at the DAF and the release authority for the DZSO/DZSTL (regardless of rank or position) and all PAX assigned to the DAF for support. The DACO will direct the out-load of PAX from DAF, reporting procedures of the airborne operation, and the proper use and police of the DAF under their direct guidance. The position of DACO is utilized for any Jumpmaster assigned to the role, regardless of rank.

7.1 Duties and Responsibilities

- Prior to assuming their duties, the DACO will, without exception, review CAASOP Chapters 2, 7, 8, Appendices B and D, and their specific unit Annex. Any questions or confusion must be addressed before the DACO performs their assigned duties for the airborne operation. The DACO's place of duty is in the immediate vicinity of the Airborne Commander of the line(s) of which they are responsible. The DACO must immediately inform the Airborne Commander, Air Shop, DZSO/DZSTL, and the unit(s) participating in and supporting the airborne operation in changes in times, mission, and A/C. Duties of the DACO will be as follows:
 - a. Maintain internal communications with the Airborne Commander, ADACO, DZSO/DZSTL, and Air Shop at all times. The DACO is the net manager for all DZ's being utilized.
 - b. The DACO will attend the WX (and all additional joint WX decisions unless otherwise directed by the Air Shop) and brief the following info with guidance from the Air Shop:
 - i. A/C parking plan.
 - ii. Type of loads for each A/C.
 - iii. Special procedures and/or equipment to be used to expedite loading IAW USAF guidelines.
 - iv. Airborne operations conducted by other units that could possibly affect the operation.
 - c. Review all forms and reports required for the airborne operation.
 - d. Ensure enough copies of all documents are readily available. This is especially important when managing multiple lines, as more copies of documents will be required for distribution. Examples of commonly used documents can be found in Appendix D of this SOP.
 - e. Verify all information regarding maintenance problems, delays, cancellations, and aborts thought the Air Shop before relaying any information to the Airborne Commander.

Ensure the Airborne Commander bases their decisions on information verified though the Air Shop. Do not skip verifying info through the Air Shop prior to updating and advising the Airborne Commander.

- f. Process all manifest paperwork through Aerial Port PAX, Liaison PAX (GLO), and/or directly to USAF PAX. If required by unit Annex, notify the Air Shop once the total number of manifested PAX are confirmed for each A/C and annotate on the universal FLASH report.
- g. Brief the entire JM team, to include the Safeties on the following:
 - i. The serious incident brief.

- A. In the event of a serious incident (activation of the reserve parachute inside the A/C that results in the ejection of a Jumper, early exits, broken USLM, malfunctions, etc.) ALL OPERATIONS WILL IMMEDIATELY CEASE.
- B. Ensure that all Jumpers remain hooked up to their anchor line cable and are seated with their seat belts fastened.
- C. Retrieve all deployment bags, but DO NOT unhook them from the anchor line cable.
- D. The paratroop doors will be closed, and the A/C will return to DAF.
- E. Reiterate that the Safeties will NOT turn off any digital media capturing devices.
- F. All equipment will remain untouched, and all Jumpers will remain on the A/C until directed otherwise.
- G. Add any additional safety regulations or procedures for special scenarios or locations.
- H. Ensure all JMs sign the roster after completing the brief in its entirety.
- ii. Instruct all Safeties to report to the DACO after returning to the DAF.
- iii. Any airborne operations specific details as coordinated through the Air Shop, Airborne Commander, and USAF Command Post.
- iv. Up to date weather forecast.
- h. Establish communications with the DZSO/DZSTL NLT one hour prior to P-hour and maintain communications throughout the airborne operation. Ensure to relay information from the DZSO/DZSTL to the Airborne Commander as it becomes available.
- i. Ensure the JM team is informed when and where their A/C will be available. USAF should have all A/C for each line available for inspection one hour prior to LT. Due to prior mission requirements and other variables, this is not always the case. The latest the A/C can be available is immediately prior to LT.
- j. Identify escort PAX for all chalks. Depending on the size of the DAF, USAF PAX may be available well before LT or GLO/Security Forces may be utilized shortly before LT.
- k. Ensure you properly capture and relay the following information on the universal FLASH report:
 - i. Any malfunctions, regardless of the outcome.
 - ii. The number and location of Jumpers or platforms that are off the surveyed DZ. Do not report any off DZ strikes until confirmed with a 10-digit grid, as reported by the DZSO/DZSTL.
 - iii. 50% or more of Jumpers land in the trees.
 - iv. Early exit from the A/C (Jumpers falling out, activation of the reserve parachute, exits on amber lights for C-17 Globemaster III operations, etc.).
 - v. Delayed opening of any parachute system, as reported by the MALFO only.
 - vi. Mid-air entanglements, as reported by the MALFO only.
 - vii. If a Jumper required MEDEVAC (ground or air) from the DZ to a higher level of care, collect the following info:

- A. Standard name line (SNL).
- B. Chalk number.
- C. Paratroop door exited.
- D. Position in stick.
- E. Special items of equipment (if any).
- F. Type of injury.
- I. Report all serious incidents to the Air Shop with the following information (refer to the DACO Serious Incident Checklist for further guidance):
 - i. SNL of the DZSO/DZSTL.
 - ii. Any pertinent info for the serious incident (10-digit grids for off DZ strikes, all info for evacuated Jumpers, type of malfunction and the end result, etc.).
 - iii. SNLs for all members of the JM team involved. Ensure to capture all details from the time of taking control of the paratroop door through the last Jumper exiting the A/C.
- m. In the event of a complete malfunction (main parachute fails to fully deploy), make every attempt to notify the Safeties on the A/C to not remove the USL snap hooks for the deployment bags from the anchor line cables inside the A/C. If they have already been removed, ensure that the equipment is not turned in to the Parachute Detail. Make every attempt to maintain the integrity of all equipment to be turned into the Investigating Officer (IO).
- n. In the event of a towed Jumper, maintain the accident scene as it was when the Jumper was being towed to the maximum extent as possible. Secure all air items of any towed Jumper after landing at DAF. After securing the equipment, immediately request for the Parachute Rigger in charge or other responsible Parachute Rigger to assume responsibility for those air items for investigation purposes.
- o. In the event of a jump refusal, follow all instructions listed in 7.2, Jump Refusals.
- p. Upon the return of the Safeties to the DAF, ensure that no red/amber light exits occurred and take accountability of any alibi Jumpers that did not exit. If required, fill out the appropriate paperwork as dictated by local SOP (Red Light Exit Report) and record any comments from the Safeties on the universal FLASH report.
- q. Confirm with the DZSO/DZSTL on the total number of Jumpers and equipment exited vs. left on board and report accountability to the Airborne Commander.
- r. Submit a detailed universal FLASH report to the Air Shop and through appropriate channels per specific Annex. If the universal FLASH report is not complete from one hour past the end of the airborne operation, send an initial report and follow instructions listed in Appendix D-8 of this SOP.
- s. After the DZSO/DZSTL returns back to the DAF, get any final details required for the completion of the universal FLASH report and anything else required by unit specific Annex. The DACO is the release authority for the DZSO/DZSTL and must report back to the DACO to be relieved of their duties.
- t. Inspect the DAF to ensure it is properly policed and returned back to DAF PAX in the agreed condition. Do NOT release DAF support PAX until DAF is in a fully policed state.

u. Release authority for the DACO is the Air Shop. Release will not occur until all reports have been filed, received, and verified. Ensure all reports are completed in a detailed fashion and factual for the airborne operation.

At no time will the DACO release any portion of the FLASH report without the Air Shop's approval. This includes comments on social media, pictures or other media, and statements from PAX.

7.2 Jump Refusals

- Jump refusals are a danger to both themselves and fellow Jumpers on the A/C. The DACO must be a current and qualified JM to be able to appropriately respond to jump refusals (conduct JMPI appropriately). The only personnel authorized to conduct a JMPI on the jump refusal is the DACO/MACO. In the event the DACO or MACO are pre-occupied during the operation, the SAF will maintain control of the jump refusal until the DACO or MACO return. Upon notification of a jump refusal, the DACO/MACO will:
 - a. Secure the Parachute Rigger in charge and coordinate with escort PAX to move to the jump refusal.
 - b. The preferred method is having the DACO and Parachute Rigger in charge move to the A/C, as the digital media capturing device will be able to record the events.
 - c. If movement to the jump refusal is not practical, coordinate with the GLO or the Air Shop for a vehicle to transport the jump refusal from the A/C to the PAX shed/location of the DACO. It is good practice to maintain recording of the jump refusal continuously from the A/C, through movement to the DACO, and until the completion of all required actions.

Ensure that the jump refusal does not tamper with any of their equipment. Pay close attention and if any tampering is noticed, immediately identify the tampering and take detailed notes on the situation.

- d. Conduct a JMPI on the jump refusal in the presence of the Parachute Rigger in charge and note any deficiencies.
- e. Monitor the Parachute Rigger in charge while they conduct their TI of all air items and note any deficiencies.
- f. Annotate the jump refusal's SNL on the universal FLASH report.
- g. Complete a detailed DA Form 2823, *Sworn Statement* describing the events that occurred from being notified of a jump refusal, the transportation and digital media recording method and any deficiencies found during the JMPI.
- h. Obtain a detailed DA Form 2823 from the Safeties on the events that occurred during the events that occurred before, during, and after the refusal to jump.
- i. Obtain a detailed DA Form 2823 from the Parachute Rigger in charge regarding the findings of the TI.
- j. If necessary, obtain a detailed DA Form 2823 from the jump refusal after they have been read their Article 31 rights by the appropriate authority. Ensure that a DA Form 3881, *Rights Warning Procedure/Waiver Certificate* if properly administered and filled out completely.

- k. Maintain control of all jump refusals until a responsible unit representative (1SG or the like) is available to assume responsibility. Supply copies of all DA Form 3881 to the unit rep.
- I. Turn all original statements into the Air Shop.

7.3 Support Personnel

- 1. Control of and maintenance of the DAF requires the support to the DACO by a variety of PAX. The DACO is the release authority for all support PAX for the duration of the airborne operation. The supporting unit and PRF are responsible for supplying the following:
 - a. An ADACO, who must be a current and qualified JM in the rank of CPL or above.
 - b. An appropriate amount (to accommodate the size and scale of the airborne operation) of current and qualified Parachute Riggers to support Rigger checks and TIs in the event of jump refusals.
 - c. Per appropriate Annex or for large scale airborne operations, DAF medical support may be warranted. DAF medical support may be utilized for in-flight Medic operations, if PAX packages are able to continue to support later lift medical operations at the DAF.

All non-jumping PAX MUST be supplied an AEBP or safety harness in order to react to and respond to any required scenarios while the paratroop doors are open. If room does not permit to the seating of non-jumping PAX on the ramp of the A/C, seats must be reallocated from Jumpers to these personnel.

- d. For operations with multiple marshalling areas (multiple PAX terminals), there must a separate ADACO for each area with constant communication with the DACO for the duration of the airborne operation.
- e. A **Marshalling Area Control Officer (MACO)** will be assigned if conducting operations from the DZ (FLS/LZ operations). The MACO will be responsible for the following:
 - i. All USA equipment will be turned back into the MACO.
 - ii. Recording any incorrect time warnings.
 - iii. Collecting any reports of unusual incidents (anything that changes the planned operation).
 - iv. Assuming the duties of the DACO in the event of a jump refusal (see 7.2, Jump refusals).

7.4 Restricted Area Photography

1. Ensuring the restriction of PAX capturing media from airborne personnel, without the express direction from the Airborne Commander and/or PAO is essential. The safe conduct of the airborne operation, public perception, and the integrity of investigative processes requires that Jumpers are fully focused on their tasks at hand and not distracted by their electronic devices. Once Jumpers have begun donning their parachute systems, any photography or video capture of activities must be cleared by the Airborne Commander, the Air Shop, and the PAO to the flying wing's Operations Group Commander. The Air Shop must be notified and receive a copy of the approved request before any photography or video capture can be conducted.

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 Chapter 8. Drop Zone Control Officer (DZSO)/Drop Zone Support Team Leader (DZSTL) and the Drop Zone Support Team (DZST)

The duty requirements for DZSO and DZSTL parallel on many aspects. From this point forward, any duties that are covered for both DZSO and DZSTL will be referred as DZSO duties for the sake of simplicity. When duties fall specifically under those of the DZSTL, it will be remarked as such.

The DZSO is the Airborne Commander's direct representative on the DZ and reports directly back to the Airborne Commander and the DACO. The DZSO is responsible for ensuring the appropriate manning of the DZST is accounted for, maintaining multiple communication channels, evaluating the safety of and removing or marking possible hazards on the DZ, monitoring all weather conditions and making the appropriate actions based on their findings, and being the final approval authority to the USAF for permission to drop any parachute suspended object for their airborne operation. The DACO is the release authority for the DZSO, regardless of rank or position.

8.1 General Information

1. Additional references.

- a. For Computed Air Release Point reference TC 3-21.220, Air Force Instruction (AFI) 13-217, *Drop Zone and Landing Zone Operations*, and any MJM Updates published after the date of this SOP and AFI 13-217.
- b. For Verbally Initiated Release System (VIRS) operations and Ground Marking Release System (GMRS) operations reference FM 3-21.38, *Pathfinder Operations*, and any MJM Updates published after the most current edition of FM 3-21.38.

Thorough understanding of all applicable additional references is vital to the safe management of a DZ. Although the CAASOP is an attempt to capture all aspects of airborne operations as a "one-stop" reference, it is the responsibility of all notified JMs to review all applicable references.

USASOC Regulation 350-2, *Airborne Operations* references TM 3-21.38 for DZSTL functions and is not required to be utilized by the CAF except for Military Free Fall (MFF) operations. USASOC is the proponent for all Ram Air (RA) parachute use and freefall techniques and training. USASOC REG 350-2 is the primary reference utilized during all MFF operations.

- 2. There is a Joint Memorandum of Agreement (MoA) between the USAF, the Marine Corps, and the USA to authorize the USA to conduct airdrop operations without a USAF Drop Zone Controller (DZC).
 - a. The initial Joint MoA was signed in 1987 and has been incorporated in all joint doctrinal and procedural publications including Joint Publication (JP) 3-17, *Air Mobility Operations*, TC 3-21.220, and AFI 13-217.
 - b. AFI 13-217, Chapter 2 must be referenced for information regarding DZ operations for the basic criteria, markings, and procedures used in support of airdrops. It describes the responsibilities of the DZC, DZSO, and the DZ survey process.

- 3. Units will maintain a record of DZSO currency in the same manner they record JM currency on a DA Form 1307.
 - a. For progression purposes, conducting a "shadow" DZSO requires the JM observing AND conducting the full performance duties of a DZSO under the direct supervision of a fully progressed, current, and qualified DZSO. If the JM conducting the "shadow" does not perform to standard, as judged by the observing DZSO, they will not receive credit and will be required to conduct another "shadow".
 - b. When the duties of the DZSO and DZSTL are combined and executed by one individual, the duty will be recorded as "DZSTL". Performing a DZSTL duty will also count towards DZSO currency requirements.
 - c. When USAF is supporting the airborne operation and acting in the role of a DZSTL, the USA individual responsible at the DZ will be recorded as DZSO.
 - d. All DZSOs must review Appendix H, Serious Incident Response Procedures, with the DZST prior to the airborne operation to ensure proper procedures are adhered to when responding to any serious incident report (SIR) generating event.
 - e. Movement and positioning of vehicles must be strictly controlled and cleared by the DZSO in order to prevent accidental injury or death, even in events necessitating medical evacuation.

8.2 References, Equipment, and DZSO Kit

- The DZSO and their team requires a litany of references and equipment to perform their duties on the DZ. It
 is important to have redundancies and spare items to adhere to the established PACE plan and address
 equipment malfunctions that often occur during extended airdrop operations. Items listed in this section are
 the minimum requirements and units are highly encouraged to exceed the amounts listed to ensure
 communication is maintained, safety is ensured, and passes are not unnecessarily aborted.
 - a. **References.** These are inspectable items and must be maintained in the immediate vicinity of the DZSO for quick reference and recording purposes. All references must be the most current edition. Although electronic editions are authorized, paper copies are the preferred method due to connectivity and battery loss issues.
 - i. CAASOP.
 - ii. Copy of the signed DRAW specific to the airborne operation.
 - iii. AF IMT 3823, *Drop Zone Survey*. Must be within five years from the approval date annotated in block 4E to be a current survey.
 - iv. AF IMT 4304, Drop Zone/Landing Zone Control Log.
 - v. Copy of the DZSTL/Aircrew Mission Briefing Checklist.
 - vi. Appendix H, Serious Incident Response Procedures.
 - b. Equipment for the DZSO and DZST. All equipment must be checked and be serviceable prior to assuming control of the DZ and will be provided by the DZSO's parent unit.

Fast and reliable communication is absolutely vital for the safe managing of DZs. At no time will a personal cell phone be the primary means of communication in the approved PACE plan!

- i. Communications. Radio communications must be established between the following bodies:
 - a. DACO.
 - b. Range Operations/Control or the air space controlling agency for the DZ.
 - c. Key PAX that are part of the DZST (ADZSO, Parachute NCOIC, Senior Medic, MALFO, Boat Detail NCOIC, and others as identified in the S-3 Air Brief).
 - d. USAF (if applicable).
 - e. Rotary wing A/C, via a transition frequency (if applicable).

ii. Two military vehicles.

- a. All non-mission essential antennas will be tied down during the operation.
- b. When utilizing tactical vehicles, mounting the FM radios in power amplifiers is recommended.
- iii. Lensatic compass, 1 ea.
- iv. Military GPS systems, 2 ea.
- v. Military map of the DZ and surrounding area, 1 ea.
- vi. Protractor, 1 ea.
- vii. Map pens or other means of marking.
- viii. Approved anemometers, 3 ea. (DIC-3, or turbometer).
 - a. In the event an authorized anemometer is not available, the DRAW authority may authorize the use of Kestrel 4500, Kestrel 5500, or Kestrel 5700 anemometers.
 - b. The DIC-3 and Turbometer will continue to be primary options for anemometers.
 - c. A three-anemometer check will be used with all models.
- ix. Pilot balloons (PIBALL) with helium in appropriate amounts to support the entirety of the airborne operation (is it suggested to have GTA 7-1-41 available to assist in calculating ceiling measurements).
- x. For daytime operations:
 - a. Visual signal (VS) -17 panels, 9 per required code letter.
 - b. Raised Angle Marker (RAM), 1 ea.
 - c. Smoke grenades, color as briefed on DZSTL brief, 1 per planned pass.
 - d. Signal mirror or other acquisition aid as briefed on the DZSTL/Aircrew Mission Briefing Checklist.
 - e. Smoke pot/smoke machine, enough for entire airborne operation/windsock, 1 ea. for wind direction identification when maneuverable canopies are being utilized.

- xi. For nighttime operations (within three hours of ending evening nautical twilight (EENT)):
 - a. Omni-directional white lights, 11 per required code letter. Bringing enough extra, new batteries for every light utilized is highly suggested.
 - b. Color filter, 1 per required code letter as briefed on the DZSTL/Aircrew Mission Briefing Checklist.
 - c. Amber rotating beacon, 1 ea.
 - d. Red star cluster/pyrotechnic device, 1 per planned pass.
 - e. Night-vision devices, 1 ea. for DZSO, ADZSO, and MALFO. THE DZSO IS RESPONSIBLE FOR PROVIDING THE MALFO WITH NIGHT VISION DEVICES.
 - f. Strobe light or other acquisition aid as briefed on the DZSTL/Aircrew Mission Briefing Checklist.
 - g. Windsock with a chemlight inside for illumination, 1 ea. for wind direction identification when maneuverable canopies are being utilized.
 - h. Chemlights for marking hazards on the DZ, creating a wind direction arrow (alternate for windsock utilization), etc. (ensure the color is coordinated in the S-3 Air Brief).

When P-hour is within a reasonable time where a block time extension could push the operation into a nighttime operation, it is highly suggested that nighttime equipment also be taken to the DZ.

- xii. Ladder detail equipment:
 - a. Ladder (12 feet minimum), 1 ea.
 - b. Saw capable of cutting through a four-inch branch, 1 ea.
 - c. Nylon climbing rope (120 feet), 1 ea.
 - d. Snap links, 2 ea.
 - e. Pole climbing equipment.
 - f. Safety belt, 1 ea.
 - g. Safety helmet, 1 ea.
- xiii. Road guard equipment:
 - a. Communication with the DZSO (unit supplied handheld radio/FM radio, etc.), 1 per control point.
 - b. Road guard vests (when deemed necessary).
 - c. Flashlight, 1 per road guard.

- xiv. Boat detail equipment. Equipment may be altered to best accomplish the mission as dictated by the DRAW Authority and the Airborne Commander. The following is a standard, baseline equipment list:
 - a. Boats, Zodiac RB10 or solid-bodied boat of comparable size, with operable outboard motor and enough fuel for the entirety of the airborne operation. The number of boats should be dictated by the amount of PAX that can be safely recovered and transported per manufacturer guidelines per pass or total for the operation.
 - b. Floatation devices, enough for all crew members of the boat and for every Jumper (not to exceed maximum capacity for the boat). Extra floatation devices are encouraged in the event of emergency situations.
 - c. Life ring with attached rope for retrieval, 1 ea.
 - d. Radio with spare battery, 1 ea. per boat.
 - e. Shepherd's hook, 1 ea.
 - f. Grappling hook, 1 ea.
 - g. Long spine board, 1 ea.
 - h. Aid bag with resuscitation equipment, 1 ea.
 - i. Rope (120 feet), 1 ea.
 - j. For nighttime operations:
 - 1. Night-vision devices, 2 ea.
 - 2. Flood light, 1 ea.

8.3 Drop Zone Support Team (DZST) Composition

- The DZSO oversees and responsible for the DZST and all support PAX on the DZ. It is the responsibility of the DZSO to ensure that all PAX and equipment are properly placed on the DZ for safe airdrop operations. If required members of the DZST are not present prior to P-hour, the operation will be delayed until member are present and could be aborted. The DZSO's owning unit will supply the DZST except for airborne operations conducted outside of the continental United States (OCONUS), off-post training, or deployments/combat operations. The following PAX compose the average DZST, but may be modified to best support the airborne operation:
 - a. Assistant Drop Zone Safety Officer (ADZSO). Required for airdrop operations involving multiple fixed wing A/C, single A/C operations on a DZ longer than 2,100 meters in length, or if there are at least 20 seconds of "green light".
 - b. Medical support package IAW paragraph 4-14 of this SOP and ISO the DRAW.
 - c. Malfunctions Officer (MALFO). The MALFO is responsible for supplying their own digital media recording device, however the DZSO will be responsible for supplying the MALFO with reliable communication capabilities and night-vision devices in the event the MALFO does not have organic assets available.
 - d. Road guards. There must be enough PAX to control traffic from entering the DZ at all access points.

- e. Ladder detail. There is not a prescribed PAX count that must be assigned to a ladder detail, but PAX must be manned to safely extract Jumpers and recover all air items from the trees. PAX with physical limiting medical profiles or other conditions that could compromise the safe extraction of Jumpers will not be utilized. Ladder detail PAX are also responsible for recovering all sensitive items and turning them over to the DZSO in the event of the Jumper requiring MEDEVAC.
- f. Additional support PAX as identified by the DZSO to ensure the DZ is properly supported. Additional PAX could be drivers for the DZSO vehicles, radio operators, "shadow" JMs for progression, etc.
- g. Boat detail. There will be two boat operators (a primary and an assistant) and two recovery PAX per boat. All boat detail PAX should be strong swimmers and it is highly suggested that one be a trained lifeguard and combat life saver (CLS) at a minimum. Boats must be able to reach all parts of the body of water and be fully launched with engines running NLT 10 minutes prior to P-hour. Every boat must have radio communications with the ability to contact the DZSO. Reference paragraph 8.11 for additional requirements for managing water hazards. A boat detail is required when the water hazard is:
 - i. Greater than four feet deep or unknown depth AND,
 - ii. Greater than 40 feet wide AND,
 - iii. Within 1,000 meters of the perimeter of the surveyed DZ.

All three criteria must be met in order to necessitate the utilization of a boat detail, however the DRAW Authority or Airborne Commander may direct the use of a boat detail for the purpose of risk mitigation.

- b. When such conditions exist that a water hazard is identified, a boat detail is required as described in paragraph 8.2. When employed the DZSO MUST ensure rehearsals are conducted for:
 - i. Recovery of a single Jumper.
 - ii. Recovery of multiple Jumpers.
 - iii. Resuscitative care (emergency medical care).

8.4 Coordination Requirements

Performing the duties of the DZSO require a great deal of prior coordination between multiple parties to ensure the efficient and safe execution of the airborne operation. Significant delays in clearing the DZ can occur if the entire DZST and support PAX are not properly synchronized and rehearsed. Regardless of the experience and rank of the individuals ISO DZ operations, the following will occur:

Although the Parachute NCOIC and parachute detail are not technically part of the DZST, it is imperative that the DZSO coordinate and communicate with the Parachute NCOIC for positioning of detail equipment and members, coordination of any vehicle movement, and maintaining an accurate accountability for air items/Jumpers.

 When conducting duties on an unfamiliar DZ, the DZSO is required to conduct a reconnaissance of the DZ NLT 24 hours prior to P-hour to ensure that the AF IMT 3823 is accurate, hazards are identified and removed or marked if unable to be removed. In the event that hazards cannot be removed, their approximate location

and method of marking must be relayed to the Airborne Commander and be disseminated at the S-3 Air Brief and during the MACO brief to the Jumpers.

- 2. The DZST is formed, equipped, and ready to conduct the airborne operation prior to or at the S-3 Air Brief. Rehearsals and communication exercises (COMEX) should be conducted prior to occupation at the DZ. Ensure all party members are present and properly equipped prior to movement to the DZ.
- 3. The DZSO will attend the S-3 Air Brief unless the timeline requires that they must occupy the DZ first. Occupation of the DZ one hour prior to P-hour takes priority over attending the briefing. Regardless, the DZSO will receive a brief from the Airborne Commander on the following:
 - a. Type of operation.
 - b. A/C type and sequence/formation.
 - c. Number of passes with racetrack duration.
 - d. Post drop operations.
 - e. Parachute and HE recovery procedures.
 - f. Follow-on lines, with all previously mentioned information in regard to the follow-ons on the same DZ.
 - g. Maximum recovery times for PAX and HE and actions to place into action in the event of missing PAX or equipment:
 - i. All PAX must be accounted for one hour after their pass lands on the DZ. This applies to all proficiency jumps, day or nighttime.
 - ii. Two additional hours should be planned for the appropriate recover of HE platforms. If additional time is needed, it must be coordinated in advance to accommodate follow on lines from different units using the same DZ.
 - Receive a range safety brief from Range Operations/Control or coordinate with the airspace controlling agency NLT 24 hours prior to the airborne operation. Refer to specific unit Annex for additional requirements.
 - i. If the DZSO is cooperatively working with USAF DZC they will conduct a thorough pre-mission coordination with the Airborne Commander and the Air Shop.
 - j. Attend the WX and submit the DZSTL/Aircrew Mission Briefing Checklist unless the airborne timeline requires occupation of the DZ during that time. If unable to attend the WX, submit the completed DZSTL/Aircrew Mission Briefing Checklist to the Airborne Commander for submission. If the checklist is not provided at WX, it must be submitted NLT three hours prior to LT.
 - k. Prior to departing for the DZ, perform pre-combat checks (PCC) and pre-combat inspections (PCI) on all PAX and equipment to ensure 100% accountability and serviceability. The DZST will then convoy as a team to the DZ.

8.5 DZSO Responsibilities without USAF DZC Support for Computed Air Release Point (CARP) Drop Zones

1. The DZSO is the highest level of authority on the DZ when USAF DZC is not present and working in tandem with USA PAX. This is regardless of rank and all orders and direction from the DZSO must be followed by any PAX on the DZ until the Airborne Commander assumes control after landing. The DZSO will continue

to be the senior authority for the DZST until the completion of the airborne operation and release is granted by the DACO. The following actions will be taken is the event USAF DZC is not ISO the airborne operation:

- 2. Prior to arriving at the DZ, the DZSO will:
 - a. Order the ADZSO to the DZ prior to the WX to report weather conditions for MASS TACTICAL operations only. This includes getting wind speeds, gusts, ceilings, rain conditions, etc. Ensure the ADZSO is familiar with the required equipment and is versed in performing ceiling calculations using a PIBALL.
 - b. Make a reconnaissance of the DZ for hazards (even on familiar DZs), although this can be done after the WX decision as long as it is completed NLT 1 hour prior to P-hour. Ensure marking of hazards is completed IAW the Airborne Commander's direction.

HE, CDS, and stationary vehicles are not considered hazards that require marking on the DZ.

- c. Attend the WX decision and submit the DZSTL/Aircrew Mission Briefing Checklist for coordinating purposes with the USAF.
 - i. If the airborne timeline prevents attendance to the WX, the DZSO will participate through radio communications or telephonically if possible and ensure that the DZSTL/Aircrew Mission Briefing Checklist was previously submitted with the Airborne Commander to take to the WX.
 - ii. If prior approval had not already been coordinated, the DZSO will contact the DACO to have the Airborne Commander receive permission to "jump in the rain" from the PRF when conditions exist where there is a good probability that the parachute systems will get wet on the DZ.
 - iii. If permission is not granted, the DZSO will abort the airborne operation if it is raining at the time of drop or the DZ is wet enough to saturate the parachute systems.
- d. Confirm the primary and secondary ground MEDEVAC routes to the next higher level of care.
- e. Upon arriving to the DZ until one hour prior to P-hour. It is the sole responsibility of the DZSO to ensure that all conditions are set for the execution of the airborne operation NLT one hour prior to P-hour. This includes:
 - i. Ensuring that the DZST convoy has successfully arrived to the DZ, and accountability is taken. Loss of PAX or any capability must be immediately reported to the DACO to confer with the Airborne Commander. The Airborne Commander will make the appropriate decision to continue the airborne operation, direct appropriate recovery operations, etc. If such conditions exist that it increases the level of risk to the airborne operation, appropriate communications must be made with the DRAW Authority and appropriate action must be made IAW DA Pamphlet 385-30, *Risk Management*.
 - ii. Briefing the entire DZST and anyone else that is authorized by the Airborne Commander to be on the DZ for the following:
 - A. All PAX will wear approved helmets 10 minutes prior to any airdrop operations and will continue to wear their helmets until the final parachute suspended object has landed on the DZ.

Falling objects that can come free during airdrop operations (e-tools, cell phones, pocket knives, etc.) pose significant risk of injury to PAX on the DZ.

- B. Reconfirm positioning of all PAX on the DZ. This includes the medical support package, MALFO, ADZSO, parachute recovery detail, ladder detail, road guards, etc.
- C. Ensure that the ADZSO is reoriented to their responsibility to relay wind speed and direction readings prior to every pass of airdrop operations.
- D. Reconfirm that all vehicles must receive permission to move from the DZSO prior to changing position on the DZ. Ground guides will be utilized for all movement once PAX have dropped.
- E. How to take appropriate action if a Jumper is seriously injured.
- F. How to take appropriate action if an investigation must occur (preserving the scene, making mental notes for the sworn statements, etc.).
- G. Not to use white lights near or on the DZ unless it is to illuminate an area for a life-threatening injury. All lights MUST be turned off NLT five minutes prior to P-hour and remain off until cleared from the DZ. Ground guides will be utilized to move vehicles on the DZ after given permission from the DZSO without the use of white lights.

Interior white lights in FLAs are authorized to perform medical treatment after the loading doors have been closed and the white light in entirely contained in the interior of the patient treatment compartment. If the loading doors must be opened, white lights should be turned off except for emergency situations where it would interfere with life saving measures by medical PAX.

- A. Vehicles will use blackout light markings when moving under guidance of a ground guide.
- B. The DZSO will illuminate the MEDEVAC LZ location with the headlights of the ground MEDEVAC platform. It is vitally important to ensure any other white lights are turned off NLT 5 minutes from the inbound time for air MEDEVAC to prevent confusion on for the landing pilots.
- iii. Perform a communications check with all key POCs once they are in position.
- iv. Locate the appropriate points of impact (CDS/HE/PAX) and set up the appropriate code letters/markings as coordinated in the DZSTL/Aircrew Mission Briefing Checklist. See paragraph 8.8, *Markings* for additional instructions on constructing code letters and markings for CARP DZs.

Ensuring the DZ is properly prepared and the entire DZST is properly briefed will ensure appropriate action is taken in a timely manner.

- f. One hour prior to P-hour until the first parachute suspended object is released from the A/C, the DZSO will:
 - i. Open the DZ with Range Operations/Control or the airspace controlling agency at the one-hour mark. Once the airspace is open, notify the DACO and maintain open radio communication with them and the appropriate airspace controlling agency throughout the airborne operation.
 - ii. Ensure that the rotary wing transition frequency is also monitored for any low flying A/C. The DZ airspace MUST be clear NLT 10 minutes prior to P-hour. This is defined by having any and all low flying A/C at least 1,000 meters from the perimeter of the DZ or properly parked on a designated LZ with engines off.

If the airborne operation is a rotary wing operation, supporting A/C must orbit away from the DZ until all Jumpers have landed and are confirmed clear from the LZ.

- iv. Do NOT directly contact any A/C that is in your airspace unless it is an emergency situation (PAX drop imminent, parachute suspended objects still in the air, etc.). Utilize the airspace controlling agency to reach out to invasive A/C otherwise.
- v. Ensure all ground MEDEVAC platforms are on the edge of the DZ IAW the medical support package plan briefed in the S-3 Air Brief. If the approved plan has the vehicles placed on the DZ, they must have their engines running with the driver in position to immediately take evasive action to avoid Jumpers landing. The TC will be standing outside and immediately in front of the vehicle to safely direct the movement of the VIC the minimum amount required to prevent Jumpers from coming in contact. This minor movement is authorized without the express consent of the DZSO.
- g. Establish ceiling heights NLT 30 minutes prior to P-hour. If ceilings are questionable or weather is predicted to change during block time, continue to monitor and make new readings as needed throughout the airborne operation. Ensure readings are relayed to the DACO.
- h. Position themselves and ensure all members of the DZST are properly positioned for the type of airdrop being performed NLT 15 minutes prior to P-hour.
 - i. For HE, high velocity CDS (HVCDS), and Joint Precision Aerial Delivery System (JPADS), the DZSO and all PAX will be at least 300 meters away from the HEPI and any planned landing area of additional platforms, never in line with direction of flight.
 - ii. For CDS, the DZSO and all PAX will be at least 200 meters from the PI and any planned landing area of additional platforms, never in line of the direction of flight.
 - iii. For PAX, the DZSO will occupy the area immediately near the PPI, ensuring that all DZST members are in their planned and appropriate position.

When PAX drops follow, HE, the DZSO and DZST will first conform to the instructions listed for HE positioning above, then move (after approval from the DZSO) to PAX drop positioning.

- i. NLT 12 minutes prior to P-hour begin establishing the 10-minute wind speed and direction window. This is accomplished by:
 - i. Place the approved wind speed indicator into operation as directed by the manufacturer (usually standing in an open area, holding the device out at shoulder height). Take an initial reading at the 12-minute mark.
 - ii. Continue to monitor wind speeds. If wind exceeds the maximum limit allowed (see figure 8.5a, Maximum Wind Tolerances) for the type of airdrop, that pass will be aborted and a new 10-minute time window will be established for the next pass. Winds MUST remain in tolerance (including gusts) for an entire 10-minute window prior to any airdrop operation.

iii. Wind speed reading will be relayed to the USAF by utilizing degrees of wind origin (not direction wind is traveling) and speed (in knots) (see figure 8.10a and 8.10b).

When taking wind readings, the highest reading between the DZSO and ADZSO will be used to always err on the side of caution for Jumper safety.

- j. Order the road guards or civilian agency to close the DZ to any unauthorized VICs NLT five minutes prior to P-hour. For large scale operations, closing of the DZ may be conducted earlier than 5 minutes to ensure safe conditions exist.
- k. During P-hour until the completion of the airborne operation, the DZSO will:
 - i. Continue to monitor wind readings and abort any passes that exceed the allotted wind speed tolerances. Begin a new 10-minute window for additional passes as allowed.
 - ii. Continue to monitor for any low flying or rotary wing A/C within 1,000 meters of the perimeter of the DZ and take appropriate action as previously described. See paragraph 8.9 for further guidance.
 - iii. Maintain consistent communication channels with all key DZST PAX.
 - iv. Communicate all pertinent information as required by the DACO, airspace controlling agency, and USAF after each pass of airdrop operations. Ensure the ADZSO sends their wind readings from their appropriate position and take the highest readings available to report. Jumper safety is paramount. In the event of a "NO DROP" scenario the DZSO will take the following actions:
 - v. For day operations, the DZSO will attempt to make radio contact with the USAF to give a "NO DROP" command. If unsuccessful, the primary visual signal for "NO DROP" will be removing the RAM. Follow the DZSTL/Aircrew Mission Briefing Checklist PACE plan for appropriate action from this point (colored smoke, etc.).
- I. For night operations, the DZSO will attempt to make radio contact with the USAF to give a "NO DROP" command. If unsuccessful or during the release of Jumpers, the primary visual signal for "NO DROP" will be activating a red star cluster pyrotechnic device. Follow the DZSTL/Aircrew Mission Briefing Checklist PACE plan for appropriate action from this point (turning off the code letter, etc.). In the event of a malfunction, entanglement, confirmed off DZ strike, injuries requiring MEDEVAC (ground or air), "NO DROP" passes and any other criteria as required by the Air Shop or the Airborne Commander, the DZSO will immediately make a report to the DACO. If the incident involves a malfunction or off DZ strike the aircraft which dropped that Jumper must cease operations until it can land and be inspected for any potential faults. It is unsafe and irresponsible to continue operations with an aircraft that may be faulty.
- m. Keep a consistent lookout for any unauthorized/unofficial spectators. No one is authorized on the DZ without the Airborne Commander's express permission.

It is the DACO's responsibility to relay information reported by the DZSO to the airspace controlling agency, Airborne Commander, and any other required agency or PAX of off DZ strikes, injuries, and investigative processes. The DZSO's main focus must be on the safe and proper control of the DZ.

- n. If a serious incident occurs, follow all procedures outlined in Appendix H and the appropriate unit Annex.
- o. After the completion of P-hour and no further drops occur, the DZSO will:

- i. Contact the Airborne Commander and report all injuries, missing PAX and equipment, off DZ strikes, and/or emergency landing scenarios. The DZSO will not contact the DACO for release until cleared by the Airborne Commander.
- ii. Ensure all pyrotechnics are discharged or stored and removed from the DZ.
- iii. All trash and refuse is removed from the DZ

It is imperative that the unit performing the airborne operation is held responsible for the policing of any trash and refuse on the DZ. If PAX are released prior to the proper collection of all non-organic material from the DZ, the DZSO assume responsibility for the policing of the area.

iv. It is not uncommon for night operations to require next day clearance from Range Operations/Control. The DZSO will make appropriate coordination with the jumping unit to provide PAX to ensure the DZ is in a sufficiently policed state per the Range Operations/Control or land-owning PAX. This may occur on weekends, holidays, or early morning hours as agreed upon between the DZSO and the land controlling/owning PAX.

8.6 DZSO Responsibilities with USAF DZC Support for Computed Air Release Point (CARP) Drop Zone

- 1. The DZSO will work in tandem with the USAF DZC to properly control the DZ and air traffic in the immediate airspace. The DZSO's responsibilities will not differ from those duties listed in paragraph 8.5 except for the following:
 - a. The DZSO and USAF DZC have a joint authority and responsibility to declare a "NO DROP" order in the event they identify an unsafe condition. A "NO DROP" order will be followed, regardless of when and by whom the order is issued, always siding on the side of safety for the Jumpers in a non-combat scenario. It CANNOT be overridden by the opposite party.
 - b. The responsibilities and duties of the USAF DZC are listed in paragraph 2.13. It is not the USA's prerogative to interfere with those operations unless they are identified as being negligent or leading to the possible cause of harm to Jumpers.
 - c. When DZC is present and operating, it is common that they are they only agency communicating with the USAF A/C. If so, the DZSO will contact the DZC to confirm the amount of parachute suspended objects exited and if any PAX/equipment remain on the A/C. This information must be relayed to the DACO for distribution.
 - d. The DZC controls the FLS and ensures conditions are safe for aircraft to land. The DZSO will immediately contact the DZC in the event the DZSO observes unsafe conditions on the FLS.
 - e. Permission to "jump in the rain" will be obtained by the ARMY and NOT the USAF DZC! Air items are a United States Army inventory item, and the USAF does not have an interest in the preservation of said inventory.

8.7 Call Signs

Call signs for all DZSOs will be the name of the drop zone followed by the term "DZSO". Example: a DZSO assigned to Sicily DZ will have the call sign of "Sicily DZSO".

8.8 Drop Zone (DZ) Markings

- 1. Proper marking and setup of the DZ is completely the responsibility of the DZSO and will be completed NLT one hour prior to P-hour IAW the DZSTL/Aircrew Mission Briefing Checklist. This section covers marking DZs for CARP operations. The authorized letters for CARP DZs are J, C, A, R, and S. If non-standard A/C or circular DZs are utilized, reference FM 3-21.38. For CARP DZs, the DZSO will mark appropriately for:
 - a. Daytime DZs: The DZSO will find the surveyed PI for the appropriate airdrop operation and set up the code letter appropriately, see Example 88a Daytime Code Letter. Code letters will be 35 feet by 35 feet (not including the RAM) in size, IAW the DZSTL/Aircrew Mission Briefing Checklist, constructed with nine VS-17 panels, and the RAM being set at the PI.



Figure 8.8a – Daytime Code Letter

b. Nighttime DZs. The appropriate code letter as coordinated on the DZSTL/Aircrew Mission Briefing Checklist will be set with the top of the code letter being on the PI. Flanker lights will be placed 250 meters directly adjacent to the code letter and an amber rotating beacon will be placed 1,000 meters or the trail edge of the DZ (whatever comes first), along the direction of flight. When multiple DZs are being utilized or otherwise instructed, utilize a unique acquisition color filter to assist USAF pilots in identifying the correct DZ. See Examples 8.8b and 8.8c for further clarification.





8.9 Rotary Wing Transition

1. The monitoring and control of rotary wing A/C is vital to the safe conduction of all airborne operations. It is the priority of the DZSO to identify and react appropriately to all low flying A/C, either through the appropriate airspace controlling agency (Range Operations/Control or other airspace controlling agency) or directly with the A/C in an emergency scenario to prevent injury or death to Jumpers or destruction of equipment. Most rotary wing and low flying A/C corridors run adjacent to DZs, along high-speed avenues of approach. The DZSO will make the following appropriate actions when a rotary wing or low flying A/C is within 1,000 meters of the perimeter of the DZ:

The DZSO is responsible for providing the safe and expeditious transition of low flying and rotary wing A/C in and around the DZ.

- a. Identify a DZST PAX to monitor rotary or low flying A/C (unless the DZSO assumes this responsibility) and report any issues directly back to the DZSO. Identified PAX must always remain oriented to the direction of flight in relation to the DZ, altitude of said A/C, and the proper utilization of the radio communications that are required to relay said information.
- b. When the DZ is opened, ensure that the pre-coordinated transition frequency (FREQ) is confirmed by the airspace controlling agency. Any rotary wing or low flying A/C that wishes to transition into open DZ airspace will contact the controlling agency for permission and the transition frequency. The transitioning A/C will then contact the DZSO for permission to move to the controlled airspace.
- c. Ensure that your predesignated PAX stays alert to any transition A/C and immediately notifies the DZSO of situations that compromise the safety of the airborne operation. Rotary wing and low flying A/C may occupy airspace near the DZ, and radio contact may be impossible, however... notify the airspace controlling agency of the situation and abort the airdrop operation when the safety of the PAX/equipment is in question.
- d. Place all transitioning A/C into a holding pattern 10 minutes prior to P-hour. If unable to contract the A/C directly, utilize the airspace controlling agency to contact the A/C. When in doubt, abort the pass in err of Jumper safety.
- e. It is common practice for rotary wing or low flying A/C to fly wide of the DZ upon notification from the DZSO. The DZSO must ensure they maintain a distance of 1,000 meters prior to and through the airdrop. If the DZSO does not have visual contact with the A/C, instruct the A/C to hover or loiter outside of 1,000 meters of the perimeter of the DZ being utilized.

Always err on the side of caution! If communication is not possible in a reasonable time prior to P-hour, initiate "NO DROP" procedures as signified in the DZSTL/Aircrew Mission Briefing Checklist.

8.10 Wind and Weather Restrictions

- All airborne operations will be conducted within the acceptable tolerances listed in Figure 8.5a. The DZSO and ADZSO will begin taking wind readings 12 minutes before P-hour and throughout the entire airborne operation. If at any time tolerances exceed those listed in Figure 8.5a, a new 10-minute window will be re-established. Once 2 minutes and less have occurred, prior to drop, the DZSO and ADZSO can call a "NO DROP" order if limitations exceed those listed in Figure 8.5a. Restrictions exist in the following situations:
 - a. If raining and parachute drying or storage capabilities do not exist, airdrop operations will be aborted.

If conditions exist that could expose the parachute system to moisture without the capability to properly dry and service the parachute system, the airborne operation must be aborted or risk severe damage to the parachutes.

- b. Wind/weather restrictions will be enforced with approved anemometer readings/compass headings. The most current reports from DZSO/ADZSO on the DZ will be utilized for authorization to drop HE or PAX, regardless of rank!
- c. Wind readings at altitude are not a necessary consideration for the DZSO during airdrop operations. The USAF will make wind readings and adjustments to CARP independently of the DZSO. The Airborne Commander must take this in consideration when building the DRAW.
- d. The DZSO assumes responsibility for ceilings when USAF DZC is not present. Never drop PAX or HE when ceilings are below 500 feet AGL.

The DZSO must receive certified training on establishing ceilings and have said training logged on their DA Form 1307 prior to conducting duties of the DZSO. Training may be obtained from the United States Army Advanced Airborne School, a Special Operations JM course, the mobile PM team (as contracted through the USA), or a non-mobile training team at Fort Benning.

- e. When USAF DZC is involved, they will be co-located with the DZSO at the PI for PAX drops, or another agreed upon location for other drops.
- f. The ADZSO will consistently monitor winds and report to the DZSO immediately if tolerances exceed maximums listed in Figure 8.5a. The ADSO will be positioned at the highest point on the DZ, as dictated by the DZSO.

Parachute Suspended Object	Maximum Wind Speed in Knots
Static line PAX	13
Static line PAX (deliberate water jump)	17
Freefall PAX	18
Door bundles with T-10 modified cargo	13
parachute	
Door bundles with G-14 cargo parachute	20
CDS with G-12 cargo parachute	13
CDS with G-14 cargo parachute	20
CDS with 26-foot high velocity ring slot	NO LIMITATION (see AFI 13-217)
parachute	
Dual Row Airdrop System (DRAS)	17
HE without quick disconnects	13
HE with quick disconnects	17
Standard Airdrop Training Bundles (SATB)	25

Figure 8.10a, Maximum Wind Tolerances



Example 8.10b – Wind Measurement/Reporting to USAF

8.11 Malfunctions Officer (MALFO)

- 1. MALFOs are assigned by the supporting Parachute Rigger Unit and are certified through the Aerial Delivery and Field Services Department at Fort Lee, VA. Training and maintenance of certification standards are monitored and maintained by each Parachute Rigger unit. DZSO's organic units are commonly required to support MALFOs with equipment that is not organically assigned in order to maintain investigative capabilities and increase safety. This section is not regulatory but is informative for JMs conducting the duties of the DZSO to better understand the roles and responsibilities of the MALFO as it relates to airborne operations.
- 2. **Requirements.** It is the responsibility of the assigned Parachute Rigger unit to ensure that the assigned MALFOs are fully current and qualified.
 - a. Must be a Commissioned, Warrant, or Non-Commissioned Officer with a minimum pay grade of E-5 (92AR9, 921A, or 92R2P) that is fully trained by the United States Army Quartermaster Corps (USAQMS), as per designated training requirements. The MALFO will be occupying an authorized position (as dictated my MTOE or TDA) and current and technically proficient (IAW with MOS requirements) with airdrop operations and parachute recovery for all parachute systems employed for the airborne operations assigned.
- 3. Duties and responsibilities.

MALFO requirements may be waived to an E-4, only when the Parachute Rigger is recommended by a Parachute Rigger Warrant Officer (921A) in charge and in a supervisory role of the E-4 in question. For additional requirements and authorizations, see AR 750-32, *Airdrop Parachute Recovery, and Aircraft Personnel Escape Systems* and AR 59-4, Joint Airdrop Inspection Records, Malfunction/Incident Investigations.

- a. The MALFO is responsible for providing and properly utilizing a digital media capturing device in a state of serviceability that supports the entirety of the airborne operation.
- b. The knowledge and training to properly collect and complete a DA Form 2923, Sworn Statement
- c. The MALFO will provide their own, appropriate Government owned or leased vehicle.
- d. Although the MALFO's release authority is the DZSO, they work independently from the DZSO and will not have any investigative processes hindered or delayed by any member of the DZST or other PAX, so long as the life, limb, or eyesight of a Jumper is not in question.
- e. The MALFO is an independent and specifically trained individual that is empowered by AR 59-4 to investigate any failure of an airdrop item or component of an airdrop system to function as it was intended or designed. Airdrop incidents are defined as:
 - i. Failure of the main canopy to deploy as designed.
 - ii. Static line failure or breakage.
 - iii. Parachute panel/gore blowout.
 - iv. Cargo parachute release failure.
 - v. JPADS landing off designated DZ for reasons other than improperly loaded data.
 - vi. Entanglements.
 - i. Entanglements are defined as anytime one or more Jumpers becomes fouled in another Jumper's equipment. This includes entering another Jumper's corner vent, entering another Jumper's suspension lines, or other criteria as defined by future regulatory guidance.
 - ii. The DZSO will ALWAYS accept the MALFO's evaluation of the situation and allow the MALFO to take any appropriate action required to properly investigate any malfunction.
 - iii. Regardless of the origin of the malfunction (human error, emergency procedure, equipment failure, etc.) the MALFO will initiate an official investigation per their regulatory guidance.
- 4. Positioning and coordination. In order to maintain integrity of the observation and investigative process, the DZSO and MALFO will:
 - a. Agree upon a position that best supports the MALFO's duties and ensures the safety of all PAX per previously mentioned requirements (distance and position from PI for specific airdrop operations).
 - b. Draw necessary equipment from the DZSO to support the airborne operations (night vision, communications equipment, etc.).
- 5. Upon the conduction of the airborne operation, the MALFO will:
 - a. Observe and record the entire airborne operation until the landing of the final parachute suspended object and released by the DZSO.
 - b. Secure all air items involved with identified malfunctions or entanglements as previously described.
 - c. This includes HE and PAX drops, regardless of origin.
 - d. Do not allow any evidence to go uncollected unless required in the process of life saving measures.

Examples of important evidence to be collected are:

- i. Combat equipment that landed independently of the Jumper.
- ii. Deployment bag from a broken static line.
- iii. Parachute harness of a Jumper that suffers a serious injury or fatality unless destruction of the harness is required to perform life saving measure as dictated by the responding Medic or medical authority,

At no time will an investigative process supersede life saving measures. The Medic responding under the Senior Medic's supervision is the absolute authority on the process of responding to and treating any casualty, regardless of scenario or situation. Life, limb, and eye sight is always the priority over any investigative process.

- e. Notify the DZSO of any identified or possible malfunction/reason to start an investigative process. If able, explain the type of malfunction, approximate the altitude, express if the Jumper's had any twists of suspension lines, identify the types of loads for the involved Jumpers, and provide a brief synopsis of the events that lead to the alleged malfunction.
- f. The MALFO will be permitted to investigate all total malfunctions as defined in AR 59-4 with the same seriousness as if a fatality occurred. Operations will pause while this happens and be canceled if necessary for the MALFO to conduct the investigation. This information may be what prevents future malfunctions and must not be interfered with.
- g. A detailed out-brief will be conducted between the MALFO and the DZSO in the event of any malfunction or incident to ensure accurate reporting prior to release by the DACO. Do not release the MALFO until all reporting requirements are satisfied by the DACO!

8.12 DZSO Responsibilities Outside of Home Station

- Responsibilities of the DZSO are usually increased when conducting operations outside of home station. This can be exasperated due to the lack of supporting personnel. Responsibilities are further increased in an OCONUS theater.
- 2. Pay careful attention to facilities, support, and infrastructure when conducting airborne operations away from established home station capabilities.
 - a. Backside support is often degraded forward from established home station capabilities. Make additional coordination to match mission requirements.
 - b. The DZSO usually assumes the responsibility of making the necessary arrangements with the off-post airspace controlling agency or host nation. Coordinate with the Air Shop to ensure proper, safe control of the unfamiliar DZ.
- 3. The DZSO will follow all directions and requirements of the host area or Annex, as applicable.
- 4. Pre-coordination will occur NLT 14 days prior to the airborne operation, or upon the arrival to the host country of operation (combat operations).

- 5. The Air Shop will provide a point of contact (POC) with any host nation that will have the airborne operation occur in their area of operation (AO).
- 6. The DZSO must ensure that an airspace controlling agency exists and make contact/coordination with them. If conditions do not exist to permit coordination (combat scenarios), the DZSO will take all directions from the Air Shop.

Actions that might be thought of as common place and assumed as normal maybe illegal in a foreign country. The DZSO must coordinate with the host country to ensure that the airborne operation is performed efficiently and effectively without degrading performance, as if conducted at home station. Work with the Air Shop to ensure compliance with all regulatory guidance and laws.

7. For training, host nations may not be able to provide adequate support (vehicles, supplies, PAX, etc.). Any deficiencies must be annotated in the DRAW and compensated by the supporting unit, as possible. If support cannot be provided, all other means should be exhausted before accepting the risk of the lack of support.

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• Chapter 9. In-Flight Rigging

In-flight rigging is a useful tool for Commanders and should be considered in the event of prolonged air movements of two hours or longer. All members of the airborne operation must be thoroughly briefed and rehearsed before executing in-flight rigging procedures.

9.1 General Information

- 1. In-flight rigging procedures are generally universal, regardless of the airframe they are being performed on. The main considerations are space availability and ensuring the A/C is properly configured for in-flight rigging per the appropriate Air Force Manual/Instruction.
- 2. Modification of the airborne timeline will be required to ensure that all Jumpers and equipment is fully prepared to execute the airborne operation (see paragraph 9.7, Airborne Timeline Modification).
- 3. The use of in-flight Parachute Riggers is required unless unit seeks prior approval. Riggers are needed to address any issues with equipment and ensure Jumper safety. If overage parachute availability is exhausted, Jumpers will be converted to airlands per the "bump plan" and may dramatically impact the tactical follow-on mission.
- 4. Ensure an appropriate number of Jumpmasters (listed in each paragraph per airframe in this Chapter) are manifested for in-flight rigging in order to properly observe Jumpers donning their equipment. The instability of flight, cramped quarters, and available light levels all lead to a higher incidence of rigging deficiencies.

9.2 Pre-flight A/C and Equipment Preparation

Additional support PAX (Parachute Riggers, in-flight Medics, etc.) will require seats at the expense of Jumper seats. Plan accordingly!

- 1. Creating and following well thought out air-load plans and carefully pre-positioning equipment is key to a successful in-flight rig. Poorly stored equipment or not strictly enforcing chalk positioning can lead to the wrong equipment being attached to the wrong Jumper and accountability issues on the DZ. Ensure the following is done for successful in-flight rigging:
 - a. JMs MUST conduct a thorough A/C inspection prior to loading. Utilize the air-load plan to ensure correct configuration has been achieved.
 - b. Check placement of enroute communications equipment.
 - c. Check in-flight meals to ensure proper quantity. Have the appropriate amount of trash bags available to contain refuse securely.
 - d. Pre-position Jumper CE:
 - i. Store weapons, already properly rigged in their appropriate weapon's case, underneath or behind the Jumper's seat, per chalk position. A good practice is to have Jumpers mark their weapons case with their name and unit using masking tape, toe tags, or the like.
 - ii. Smaller jumpable packs can be stored underneath Jumper's assigned seats with their weapon, as room permits.
 - iii. Larger jumpable packs must be palletized.

- e. That appropriate amount of parachute systems (minimums listed in each paragraph per airframe in this Chapter) are palletized and loaded.
- f. Strictly enforce chalk order and integrity during the entire airborne timeline. Jumpers must be very familiar with their place in the A/C.

9.3 C-130H/J "Hercules"

- 1. PAX. Requires 42 available seats with no center stanchions installed.
 - a. One x PJ.
 - b. One x AJ.
 - c. Two x Safeties.
 - d. Four x JMs, current and qualified, dispersed in the chalk to observe in-flight rigging and assist with JMPI (minimum recommended).
 - e. Total Jumpers (including jumping JMs) x 37/38.
 - i. Two seats must be reserved for the Safeties, 1-2 seats must be reserved for your in-flight Parachute Riggers, and if utilized one seat for an in-flight Medic
- 2. A/C configuration. Ensure that the A/C is properly configured prior to loading the A/C. Confirm the following:
 - a. All center stanchions are removed.
 - b. Seatbelts are arranged at 20-inches on center.
 - c. Confirm seating is IAW Diagram 9.3, C-130 Hercules In-Flight Rigging Seating Plan.
 - d. All conveyor frame assemblies are removed by the Loadmaster and properly stowed/lashed under the troop seats.
 - e. All USAF equipment must be off the cargo floor and ramp except for the space immediately aft of the forward bulkhead.



- A-1 Main and reserve parachutes.
- A-2 Large jumpable packs and weapons cases (belonging to troops occupying wheel well seats).
- A-3 Special items of equipment.
- DB Door bundles.

Diagram 9.3a – C-130 Hercules In-Flight Rigging Seating Plan

3. Equipment stowage.

- a. Load a minimum of 44 main and reserve parachutes on a 463L pallet (see Figure 9.3a C-130 Parachute Loading on 463L Pallet with Cargo Netting and Figure 9.3b C-130 Parachute Loading on 463L Pallet with Pallet Box and Cargo Net). Secure the parachutes with a cargo net, ensuring it does not exceed the maximum dimensions of 68 inches wide, 84 inches long, and 76 inches high. Exceeding these dimensions will interfere with the safe exiting of Jumpers and prevent the proper placement of the anchor line cables.
- b. Any Jumper with a jumpable pack that cannot be properly stowed below their troop seat will stack them at station 477 (see position A-2 in Diagram 9.3) along with all weapons cases for Jumpers seated in the wheel well seats. Ensure equipment is clearly marked to avoid hanging equipment on the wrong Jumper.
- c. Special items of equipment will be stacked and stowed in position A-3. This space may be utilized to stow any large equipment if there are no special items of equipment or as room permits.
- d. Door bundles are stowed aft of position A-3 and should be the closest items stowed to the paratroop doors.
- e. Jumpers will maintain control of their helmets, protective masks, body armor, and anything else worn on their person for the airborne operation.

Ensure all equipment is properly lashed and secured prior to take off.



Figure 9.3a – Parachute Loading on 463L Pallet with Cargo Netting



Figure 9.3b – Parachute Loading on 463L Pallet with Pallet Box and Cargo Net

- 4. Rigging procedures.
 - a. The PJ will initiate buddy rigging NLT two hours and 20 minutes prior to P-hour. JMPI of all PAX (to include the JM team) must be completed prior to the 20-minute time warning.
 - b. Begin passing main and reserve parachutes forward to the rear of the stick until all systems have been distributed. Once all Jumpers have received their equipment and completed their initial inspection of their air items, go immediately into buddy rigging.
 - i. Special attention must be taken by all PAX due to the increased risk of incorporating deficiencies. Ensure that all current and qualified JMs available are monitoring the buddy rigging process.
 - ii. Once a Jumper has completed buddy rigging, they will sit in their assigned seat with their helmet on and wait for JMPI.
 - iii. Ensure JMs are assigned to zones and JMPI all PAX as assigned. If more than four JMs are available, distribute JMPI assignments evenly.
 - iv. Safeties will be utilized as roving corrections stations, as necessary.
 - v. Once all Jumpers have been JMPI'd, the JMs will immediately go into buddy rigging and be JMPI'd by the Safeties.
 - vi. The PJ will supervise JMPI and will not assist unless required to meet the 20-minute time warning.

All Jumpers must know who they are responsible for buddy rigging and each JM must know the Jumpers they are responsible for JMPI'ing prior to loading the A/C. Ensure this is rehearsed in SAT and all PAX identify their responsibilities in the mock doors.

- 5. Additional equipment. What you take on the aircraft is all you will have, therefore a thorough inspection of Jumpers' helmets, air items and equipment should be conducted prior to loading to prevent any Jumpers or equipment being scratched. Ensure a sufficient amount of the following items are stowed in an AKB/UPRB or JM safety kit and secured on top of the palletized loads prior to take off.
 - a. 1/4" cotton webbing.
 - b. Assorted retainer bands.
 - c. Replacement helmet components.
 - d. Plastic trash bags.
 - e. One inch masking tape.
 - f. Tape, pressure sensitive, adhesive, olive cloth (100 mph tape).
 - g. Other expendable items that are required to address deficiencies or needed to ensure equipment is safe for airborne operations.

9.4 C-130J-30 "Super Hercules"

- 1. PAX. Requires 60 seats with no center stanchions installed.
 - a. One x PJ.
 - b. One x AJ.
 - c. Two x Safeties.
 - d. Six x JMs, current and qualified, dispersed in the chalk to observe in-flight rigging and assist with JMPI (recommended minimum).
 - e. Total Jumpers (including jumping JMs) x 55/56.
 - i. Two seats must be reserved for the Safeties, 1-2 seats must be reserved for your in-flight Parachute Riggers, and if utilized one seat for an in-flight Medic
- A/C configuration. Ensure that the A/C is properly configured prior to loading the A/C (see Diagram 9.4 C-130J-30 Super Hercules In-Flight Rigging Seating Plan) in the same fashion as listed in paragraph 9.3.



- A-1 Main and reserve parachutes.
- A-2 Large jumpable packs and weapons cases (belonging to troops occupying wheel well seats).
- A-3 Special items of equipment.
- DB Door bundles.

Diagram 9.4a – C-130J-30 Super Hercules In-Flight Rigging Seating Plan

- c. Equipment stowage.
 - i. Load a minimum of 64 main and reserve parachutes on a 463L pallet (see Figure 9.4a C-130J-30 Parachute Loading on 463L Pallet with Cargo Netting and Figure 9.4b – C-130J-30 Parachute Loading on 463L Pallet with Pallet Box and Cargo Net).
 - ii. Build pallets in the same manner as listed in paragraph 9.3 by the dimensions listed in Figure 9.4a and 9.4b below.



Figure 9.4a – C-130J-30 Parachute Loading on 463L Pallet with Cargo Netting



Figure 9.4b - C-130J-30 Parachute Loading on 463L Pallet with Pallet Box and Cargo Net

- d. Rigging procedures. Procedurally, rigging is performed as described in paragraph 9.3.
- e. Additional equipment. Equipment needs will not differ from those listed in paragraph 9.3.

9.5 C-17 "Globemaster III"

- 1. PAX. Requires 102 seats.
 - a. One x PJ.
 - b. One x AJ.
 - c. Two x Safeties.
 - d. Eight x JMs (current and qualified) dispersed in the chalk to observe in-flight rigging and assist with JMPI (recommended minimum).
 - e. Total Jumpers (including jumping JMs) x 97/98.
 - i. Two seats must be reserved for the Safeties, 1-2 seats must be reserved for your in-flight Parachute Riggers, and if utilized one seat for an in-flight Medic.
- 2. A/C configuration. For long duration flights, 463L comfort pallets are available upon request that provide additional latrine capabilities and the ability to heat meals. Comfort pallets take up space that would otherwise be used for seating Jumpers and must be accounted for in the load plan. Ensure to work with the Air Shop to coordinate the usage of comfort pallets well in advance.



Diagram 9.5a – C-17 Globemaster III In-Flight Rigging Seating Plan

- 3. Equipment stowage. Parachutes systems will be placed in their UPRBs and secured to two 463L pallets located on the ramp of the A/C. Palletizing chutes and luggage is often required when conducting airborne operations with sustained follow-on objectives and longer times of flight. IAW AFI11-2C-17V3ADD-A (17 AUGUST 2010) pallet spaces 8L/R (on ramp) are restricted to 54" and pallet spaces 9L/R (on ramp) are restricted to 37" to allow the use of the inboard anchor line cable. Reference Appendix J-4 (pp 361) for more information.
- 4. All Jumpers secure their weapons underneath or behind the inboard troop seats and their jumpable packs are secured to the floor, in the isle by the Loadmaster. All special items of equipment and door bundles will be stowed aft of the paratroop door.
- 5. Rigging procedures. Rigging procedures are exactly the same as previously described in paragraph 9.3, however the issuing of air items differs due to the increased size of the C-17 Globemaster III.
 - a. Equipment issue.
 - i. Starting with the outboard seats, Jumpers will stand up and walk in a counterclockwise direction to the pallets on the ramp. Once the Jumpers get to the pallet, issue them a UPRB with a T-11 main and reserve parachute inside of it. Once complete, conduct the same procedure for inboard Jumpers.
 - ii. If the airborne timeline has not allowed for proper pallet building as described above, the PJ may decide to issue parachutes in a similar fashion as described in paragraph 9.3. If this is the method utilized, the JM team must ensure to move all PAX towards the aft end of the A/C to not frustrate parachute issue. Once the Jumper has received their parachute system, they will return to their seat.
 - b. Once all Jumpers have received their air item issue, they will immediately begin buddy rigging as previously outlined in paragraph 9.3.
- 6. Additional equipment. Equipment needs will not differ from those listed in paragraph 9.3.

9.6 Partial Rigging Procedures

- 1. **General information.** Partial rigging procedures allow an Airborne Commander to conduct a modified form of in-flight rigging for an airborne operation when the mission dictates it is appropriate based on the following factors:
 - a. Enemy threat enroute to the DZ. Based on intelligence of the enemy's posture and environment, Jumpers may need to be prepared for bailout operations in the event that the A/C is downed prior to reaching the designated DZ.
 - b. The need for additional Jumpers on the DZ. Partial rigging allows for full seats on the A/C, where the additional room required for in-flight rigging limits seats for Jumpers.

- c. The need to reduce stress on the Jumpers. Partial rigging procedures reduce the amount of movement the Jumpers must complete inside the A/C and eliminate buddy rigging inside the A/C.
- 2. **Considerations.** The following considerations must be made by the Airborne Commander when planning for partial rigging:
 - a. Reference paragraph 6.5 (f), *Optional procedures for attaching equipment*, for appropriate procedures for TI and hang *or* late hang and JMPI.
 - b. Partial rigging should only be considered for flights between two and six hours in duration. If the flight exceeds six hours, full in-flight rig should be utilized.
 - c. Available current and qualified JMs to support in-flight rigging see below in subparagraph (c), *JM support* for JM per A/C.
 - d. Amount of CE and special items of equipment.
 - e. Number of A/C available for the mission.
- 3. **JM support.** Any current and qualified JM who is manifested in the chalk can be utilized to assist the JM team in the attachment and inspection of the Jumper's CE during in-flight rigging. Additional JMs should be spread along the chalk in order to facilitate procedures and to ensure all Jumpers are properly monitored throughout the process. During mock door training, the seating of the additional JMs must be identified and each JM should be assigned to a group of Jumpers that they will be responsible for their rigging and inspection.

Type of A/C	Number of Additional JMs Chalk Placement of JMs		
C-130 H/J	4	12 and 13	
C-130J-30	6	14, 15, and 25	
C-17	8	7, 14, 32, and 41	

Figure 9.6a – Additional JM Requirements and Placement Recommendations

Identifying additional JMs and zones for responsibility during mock door training will greatly reduce confusion, movement in the A/C and ensure that all Jumpers have been rigged and checked appropriately.

4. Procedures.

- a. All equipment will have already been rigged IAW Chapter 12 of this SOP and inspected/corrected at manifest call.
- b. Prior to LT, all Jumpers that are not a JM identified for assisting with partial rigging operations will begin buddy rigging into Hollywood configuration.

The proper rigger of a Jumpers equipment is the responsibility of the jumper and their first line Leader. A JM is not required to conduct a TI of Jumper's CE prior to manifest call, but they are encouraged.

c. The JM team and supporting JMs, as identified, can carry, place, and secure all of their air items and CE on the A/C prior to boarding if previously coordinated with the AF. If sensitive items are left on the A/C a PAX should be left to guard the equipment.

d. The JMs will then JMPI all Jumpers. Once complete, the not being executed in the A/C, a JM will then conduct a TI of the Jumper's CE to ensure that it is properly rigged IAW Chapter 12 of this SOP. If deficiencies in CE cannot be remedied, that equipment will be scratched from the operation per the decision of the PJ. If the equipment is considered mission essential, the PJ will contact the Airborne Commander for further guidance.

For "TI and Hang," the JM that conducted the TI MUST be the JM to hang the Jumpers equipment and conduct the "six point" inspection.

- e. Jumpers will carry their CE (or have a preapproved method for transporting the CE) to the A/C and place it centerline, in chalk order, to be secured by the Loadmaster prior to take off. Ensure the airborne timeline accommodates the transport, placement, and security of this equipment. If CE is placed on or near the A/C a PAX should remain at the A/C to guard the CE and sensitive items.
- f. At the briefed time, JMs will begin conducting the appropriate method of attaching CE to the Jumpers for their assigned zones. The PJ will monitor this process and only assist in the event that actions will not be complete before the 20-minute time warning. The PJ is ultimately responsible for verifying that all Jumpers have had their CE hung and inspected prior to exiting Jumpers.

All JMs MUST rehearse and be knowledgeable in the correct and approved procedure (TI and hang or late hang and JMPI) for the airborne operation.

- g. The JM will assist the Jumper in returning to their seat, routing the appropriate adjustable leg strap, and reattaching their seatbelt until given the 10-minute time warning.
- h. JMs will continue this until their assigned zone is complete. If a JM finishes with sufficient time to assist other JMs in their duties, the assisting JM must ensure positive identification of all additional Jumpers completed and make a positive handoff of those Jumpers to the assisted JM.
- i. Once all Jumpers have had their equipment hung and inspected appropriately, the Safeties will assist the JM team with the proper rigging of their parachute systems and CE and then immediately JMPI the JM they rigged. Assisting JMs will perform buddy rigging procedures and JMPI each other, unless time permits for the Safeties to assist in the JMPI of the JMs.

The Jumpers will be verified as being complete by visually assessing that their CE is attached with the adjustable leg strap properly routed. The PJ will also get a verbal confirmation from all JMs that they have completed their duties as described and assigned.

j. All Jumpers, to include all JMs, will be completely rigged and JMPI'd prior to the 20-minute time warning.

Only the Airborne Commander has the authority to adjust the rigging timeline once published. This is for the timeline alone and there will not be any deviation from the procedures stated in this section.

k. Exiting procedures for the appropriate airborne operation and A/C will be followed from issuing the 20minute time warning until the end of the airborne operation as previously described.

9.7 Airborne Timeline Modification

1. Modification of the airborne timeline is necessary to accommodate in-flight rigging procedures. The Airborne Commander must assess the flight time and proficiency of Jumper and JMs to make the appropriate decisions for the required changes to the standard airborne timeline. See Figure 9.7a for an example of a modification of an airborne timeline for a proficient chalk of Jumpers and JMs.

Time	JM Duties	Loadmaster Duties	
ST (-) two hours and 30 mins	Manifest call.		
ST (-) two hours and 15 mins	SAT/PLFs/Mock Door.		
ST (-) one hour and 20 mins	Load transportation.		
ST (-) one hour and 15 mins	Depart unit area.		
ST (-) 55 mins	Arrive at DAF.		
ST (-) 35 mins	Floor load A/C.	Secure equipment.	
NLT ST (-) 25 minutes	Troops load A/C.		
ST (-) 10 mins	Load pallets on A/C. Secure pallets.		
ST	Ensure all Jumpers are secured		
	and seated in troop seats.		
ST (+) 20 mins	Safeties assist in the warming of	Loadmasters operate meal	
	meals (if comfort pallets installed).	warming equipment.	
ST (+) 35 mins	TO.		
ТО	Reset watches to DZ time zone		
	and announce to Jumpers.		
TO (+) 30 mins	Safeties will distribute meals.	Assist Safeties distribute meals.	
TO (+) one hour and 10 mins	Safeties collect all trash.	Assist Safeties in the collection	
		of trash and turn interior lights	
		off or to red light only.	
TO (+) one hour and 20 mins	All PAX sleeping.		
P-hour (-) four hours	Wake up all PAX.	Assist JMs with intercom system	
		in waking up Jumpers. Turn	
		interior lights back on to white	
		light.	
P-hour (-) three hours and 15	Latrine call. Safeties collect all	Announce last call for latrine	
minutes	remaining trash.	break to Jumpers and assist in	
		the dissemination of information.	
P-hour (-) two hours and 30	All troops seated in chalk order		
minutes	with approved neimets, protective		
	masks, body annor or other		
	dopped		
	IMs will begin issuing air items		
P-bour (-) two bours and 20	Buddy rigging begins IMs will		
minutes	assume previously described		
	duties as listed in this Chapter		
P-hour (-) 20 minutes	All Jumper and JMs will be fully		
	rigged and inspected, ready to		
	conduct the airborne operation.		
	The JM team will issue the 20-		
	minute time warning.		
P-hour (-) 10 minutes	The JM team will issue the 10		
	minute time warning and then		
	execute the airborne operation to		
	standard (per this SOP).		
P-hour	Completion of the airborne	Assist the Safeties in the	
	timeline. Safeties will retrieve all	retrieval of USA equipment with	
	USA equipment from the paratroop	the towed parachutist retrieval	
	door and secure it.	system (TPRS).	

Figure 9.7a - Modified Airborne Timeline Example

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Chapter 10. Static Line Maneuverable Canopy (MC) and Military Free Fall (MFF) Operations.

10.1 Authorization for Use of the MC Parachutes

 Commanders may establish limitations on who is authorized to jump MCs (such as the MC-6 or any other parachute system that utilizes toggles or other means to purposefully control the direction and drive of the parachute system by the Jumper and is activated by a static line). Parachute systems that require the use of a slip as the primary means of controlling the canopy do not fall into this category.

2. General information.

- a. ETP requests. Reference specific unit Annex for authorizations of use and ETP approval protocols.
- b. Pre-requisite training prior to utilizing MC parachutes.
- c. Initial training:
 - i. The Jumper MUST view the appropriate training video.
 - ii. If available, the Jumper will conduct simulator training as part of initial training. The Jumper's unit will make every attempt to find means of providing simulator training before waiving this requirement.
 - iii. Initial training, once complete, does not expire. Retrain will be assigned upon request of the Jumper, evaluation of a unit JM (noting a lack of general understanding and safe operation of the parachute system), or by order of the unit Commander.
 - iv. Initial training will be recorded in MFR format, describing the totality of the training conducted and the day it was completed. This document will be maintained with the Jumper's jump log and annotated on the Jumper's DA Form 1307.
- d. Sustained training. Specific SAT will be provided by the JM team prior to every airborne operation that MCs are utilized. See Appendix E-2, *Pre-jump (MC-6)*.
- e. Specific exiting procedures for MC parachute systems in the training environment. The CAF will always utilize alternate door exiting procedures for training (ADEPT) when conducting airborne operations with MCs. This is a training safety measure that allows the maximum number of Jumpers to exit the A/C with a minimum risk of collisions and high-altitude entanglements. There are two options that the Airborne Commander may decide to utilize for the training event: Option 1 and Option 2.

i. ADEPT Option 1. During a single pass, only one stick of Jumpers on one side of the A/C exit their paratroop door per pass. This can be separated into multiple small sticks or one side per pass (as "green light" allows). The PJ will always exit the first parachute suspended object and then the PJ and AJ will alternate passes as rehearsed during JM rehearsals. Exiting procedures are as follows:
ADEPT OPTION 1



Figure 10.1a – ADEPT Option 1

- ii. Only the JM for the paratroop door being exited on that pass will issue time warnings and jump commands.
- iii. Only Jumpers for that pass will respond to their appropriate JM's warnings and commands, as issued.
- iv. All time warnings and jump commands will be issued in standard format, without being in tandem with the opposite paratroop door.
- v. The controlling JM will exit Jumpers on their paratroop door only, per previously described standards in this SOP.
- vi. The controlling JM will NOT exit until the last Jumper on their paratroop door has exited. The PJ will ALWAYS be the last Jumper to exit the A/C unless conducting over the ramp operations. Separate AJs can be assigned per stick and exit after their last Jumper, or one AJ can exit after the last Jumper exits their paratroop door.

The PJ will be the last Jumper to exit the A/C unless conducting over the ramp operations. If the PJ exits early, any remaining Jumpers will remain on the A/C, becoming airlands.

f. ADEPT Option 2. During a single pass, Jumpers on one paratroop door will be released followed immediately by the opposite paratroop door's Jumpers. This can be separated into multiple small sticks or the entire A/C (as "green light" allows). The PJ will always exit the first parachute suspended object until their entire stick has exited, and then the AJ will immediately give their Jumper the command of "GO!" and exit their stick as rehearsed during JM rehearsals. Exiting procedures are as follows:

ADEPT OPTION 2



Figure 10.1b – ADEPT Option 2

- i. Both JMs will give all time warnings and jump commands in tandem, as per the standard format as a mass exit per this SOP. The PJ may decide to utilize the terms "first pass/second pass/etc." instead of "outboard personnel/inboard personnel" with the "STAND UP" jump commands to reduce confusion.
- ii. All commands and time warnings will be followed, in tandem, until the second to last jump command of "STANDBY!" Both number one Jumpers will rotate into the paratroop door, with the AJ looking either over or under their trail arm at the PJ.
- iii. Upon the illumination of the "green light", the PJ will issue their number one Jumper the physical and verbal command of "GO!" and begin monitoring their Jumpers per standard protocol.
- iv. The AJ will continue to watch the PJ's stick until the last Jumper exits on the PJ's paratroop door.
- v. The AJ will then immediately verify that the "green light" is still illuminated and then issue their Jumper the final jump command of "GO!" The AJ will then move into monitoring their Jumpers per standard protocol.
- vi. Once the final Jumper has exited on the AJ's side, the AJ will rake their USLM, in order to gain separation for the Safety, make eye to eye contact with the Safety as they secure their USLM using the "trifecta of knuckles", center themselves in the paratroop door, confirm that they no longer have any Jumpers on their side, confirm that the "green light" is still illuminated on the trail set of jump caution lights and make a vigorous exit out their paratroop door.
- vii. The PJ will monitor the AJ's paratroop door and ensure that the AJ has safely exited. Then the PJ will conduct the same actions as listed in the previous sub-paragraph and make a vigorous exit out their paratroop door.

If the "red light" becomes illuminated during the exiting of Jumpers, jump commands can be resumed from the jump command of "CHECK STATIC LINES!" unless the time of the racetrack makes unhooking and re-securing of USLMs more practical. If USL snap hooks are disconnected, it is the responsibility of the Safety to stow excess USLM on all Jumpers on their paratroop door to prevent static line injuries.

10.2 Wind Direction Indicators

- Although not a requirement, it is highly suggested the units provide smoke generating capabilities (smoke pots, smoke generators, multiple smoke grenades) as an aid to Jumpers in identifying wind direction and an approximation of speed at the ground level in order to make the appropriate actions before landing. If smoke is not utilized, windsocks are required for all training airborne operations. The Airborne Commander will make the final decision on the appropriate wind direction indicator to be utilized.
- 2. Smoke use.
 - a. It is suggested to provide more than one location of smoke generation along the DZ, depending on the size of the DZ and the weather conditions present.
 - i. It is suggested that smoke be deployed on the lead edge, center of, and trail edge of the DZ. Small DZs (less than 1,000 meters) and circular DZs may utilize less per the DRAW.
 - ii. Any source of smoke generating is authorized, per local restrictions, as long as it provides smoke coverage for the entire pass. If smoke grenades are utilized, the DZSO must be prepared to deploy multiple grenades per pass, depending on the DZ. Ensure that ammo requests support the airborne operation.
 - iii. If smoke generating VICs are deployed, they will be placed IAW the previously described locations of this paragraph and be part of the DZST. MCs should be able to avoid vehicles and not moving, CONNEX buildings, so moving vehicles should be avoided unless the Jumper shows a complete lack of proficiency in the utilization the of canopy system.
 - iv. Utilize any color smoke except red or violet. Ensure the color of smoke is annotated in the DZSTL/Aircrew Mission Briefing Checklist.
 - b. Do not start smoke generation until the first Jumper has exited the A/C and continue to provide smoke until the final Jumper has landed on the DZ. Ensure enough smoke is available for every pass until the final MC Jumper has landed on the DZ.
- 3. Windsock use.
 - a. Provide easily identifiable windsocks at the same locations as described for smoke employment.
 - b. For nighttime operations, place a CHEMLIGHT inside the windsock for easy identification.
 - c. Utilize any color except red, violet, or infra-red.

10.3 Minimum Jump Altitudes of MC Canopies for Peacetime Training

As of the writing of this SOP, only one, authorized MC canopy is utilized by the CAF: the MC-6.

Type of MC	High Performance	High Performance	Non-standard A/C	Non-standard A/C	
Canopy	A/C – Paratroop	A/C – Over the	with a Drop Speed	with a Drop Speed	
	Door Exits	Ramp Exits	of > 90 Knots	of < 90 Knots	
MC-6	1,000 feet AGL	1,250 feet AGL	1,250 feet AGL	1,500 feet AGL	
Figure 40.0c. Minimum Jumm Altitudes AOL for the MC C During Depenting Training					

Figure 10.3a – Minimum Jump Altitudes AGL for the MC-6 During Peacetime Training

10.4 Military Freefall (MFF) Operations

The United States Army Special Operations Command (USASOC) is the proponent for Ram Air (RA) canopy use and MFF operations. Reference USASOC Regulation 350-2, *Airborne Operations* and ATP 3-18.11, *Special Forces Military Freefall Operations* for additional information.

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• Chapter 11. Non-Standard Aircraft for Airborne Operations

Non-standard A/C are utilized for small unit insertions and proficiency airborne operations across the force. Although the primary focus of the CAF is high-performance, fixed wing, large capacity A/C (C-130 series and C-17 Globemaster III), availability of platforms, special mission requirements, and incentive operations can necessitate the use of non-standard A/C. JMs and Jumpers alike must be familiar and rehearsed in all the alterations from standard, high-performance airborne operations to ensure the safety and prevent delays in the airborne timeline. Specific modifications to training and operations regarding each platform will be discussed in this Chapter.

11.1 General Information

- 1. Non-standard is not synonymous with not being a high-performance A/C. The C-27J Spartan meets the requirements and is considered high-performance in regard to meeting jump requirements for attending Jumpmaster School. Although the MV-22 Osprey may be considered high-performance by some branches of the military, it is not in regard to USA airborne operations.
- 2. CASA series A/C is a fixed wing A/C but does not meet the performance characteristics of a high-performance A/C and will not count towards high-performance jumps for USA PAX.
- 3. Rotary wing A/C do not meet performance characteristics to be considered high-performance jumps.

It is important to remember that the purpose of prioritizing highperformance exits over other, non-standard A/C is to gain proficiency in delivering Jumpers to the DZ with the primary airframe delivery platform for the CAF (C-130 series A/C and C-17 Globemaster IIIs).

- 4. Due to the unique aerodynamic properties that are generated by rotary wing A/C, an additional two seconds will be added to all opening counts for canopy systems being utilized.
 - a. For the T-11 ATPS, the opening count will be increased from six seconds to eight.
 - b. For the MC-6 PPS, the opening count will be increased from four seconds to six.
- 5. Non-standard A/C are not equipped with the capabilities to conduct CARP operations and will require the DZSTL control of the DZ. See Chapter 2.8 and Chapter 8 for more details on DZSTL requirements and responsibilities.

11.2 Duties and Responsibilities

 Although duties and responsibilities will mirror those of required for high-performance A/C, the distinct differences will be outlined in this paragraph. In the event of performing airborne operations from a C-27J using a CARP DZ, and from an established PAX shed, the required actions listed in this paragraph will not apply.

2. Responsible Commander.

- a. Reference the unit specific Annex for coordination instructions and requesting support for and permission to conduct non-standard A/C operations.
- b. Provide the following equipment and support PAX in modification of those listed in Chapter 8:i. DZSTL and ADZSTL in lieu of a DZSO and ADZSO.
 - ii. A MACO to control the movement of PAX to and from A/C and perform duties listed in Chapter 8.

- iii. Medical coverage IAW table 4-10a of this SOP.
- iv. One FM radio for the MALFO.
- c. Establish a marshalling area to include:
 - i. Holding area.
 - ii. Appropriate area for providing the MACO briefing (enough distance/insulation from the sound of the A/C).
 - iii. Parachute issue/turn-in points.
 - iv. Area for parachute donning/JMPI.
- d. Ensure that:
 - i. All Jumpers have received aircraft specific SAT NLT 48 hours in advance or IAW unit specific Annex.
 - ii. The MACO submits the required FLASH report to the Air Shop IAW with unit specific Annex.
 - iii. Communications are maintained throughout the entire airborne operation.
- 3. Air Shop. Evaluate and forward requests for support to the appropriate authorities for approval.

4. Parachute Rigging Facility (PRF).

- a. Provide the appropriate parachute systems ISO the airborne operations.
- b. Provide Parachute Rigger support for the duration of the airborne operation in the same fashion as any high-performance A/C jump.
- c. Provide the MALFO team to the DZSTL.

5. Commander, Aviation Unit (USA or other Sister Service).

- a. Provide requested airframes with crews and logistics support ISO the airborne operation.
- b. Ensure A/C is properly configured for conducing airdrop operations IAW this SOP and applicable manuals.
- 6. **Marshalling Area Control Officer (MACO).** The MACO is the responsible unit Commander's representative and will control all supporting elements and activities to include:
 - a. Having all the same qualifications of a DACO as listed in Chapter 2 of this SOP.
 - b. Manifesting all PAX on a DA Form 1306.
 - c. Controlling all vehicles, road guards, and traffic control points (TCP). Ensure that POVs and other spectators do not interfere with the operation.

d. Organizing the marshalling area and A/C parking area/LZ. Jumpers should be able to land close to the designated turn-in points to maintain efficiency for multi-lift operations or "elevators".

Ensure parachute turn in points and the LZ, taxi way, and/or A/C parking area are located a fair distance away to facilitate safe traffic patterns and prevent prop blast/rotor wash from re-inflating canopies on the ground.

- e. Facilitating pre-flight orientation between the JM team, the flight crews, and Jumpers.
- f. All Jumpers must receive a thorough briefing to include:
 - i. Being introduced to the JM teams and Crew Chief/aircrew.
 - ii. Appropriate actions on how to approach and load the A/C.
 - iii. Seating arrangements.
 - iv. Wind velocity and direction.
 - v. Emergency procedures.
 - vi. Jump commands.
 - vii. Exiting procedures.

viii. Any additional information that will increase the safety of the airborne operation.

- g. All JM teams will receive a thorough Pilot/Crew Chief Brief from the pilot and/or aircrew members to include:
 - i. Orientation to the airframe.
 - ii. Orientation to any internal communications equipment and its proper operation.
 - iii. DZ with proper identification of all important points (LZ, taxiways, parking areas, turn in points, direction of flight).
 - iv. Number of lifts and amount of parachute suspended objects being released per pass.
 - v. Types of parachutes being utilized.
 - vi. Drop altitude and speed.
 - vii. Actions to take during emergency procedures.
 - viii. Safety considerations.
 - ix. Any additional information as required from the pilot or aircrew. Any additional information requested from the JM team.
 - x. Establishing and maintain communications with the DZSTL NLT one hour prior to P-hour and throughout the entire airborne operation.

- xi. Appointing JMs to conduct JMPI and set an NLT time for all rigging and JMPI to be complete for each chalk.
- xii. Ensuring that parachute issue is based on the DA Form 1306 by chalk.
- xiii. Monitoring each chalk and ensure there is enough time to properly buddy rig and conduct JMPI. The MACO will make appropriate adjustments to these actions to ensure the smooth execution of the airborne timeline.

Remember to take in consideration any refueling actions that may occur during the airborne operation and verify those approximate times with the pilots prior to the execution of the airborne operation.

7. Jumpmasters (JM). Jumpmasters will be fully PJ qualified on high-performance A/C prior to performing ANY duties on non-standard A/C. Any JM performing duties on non-standard A/C will review the specific section that covers the airframe being utilized and follow all instructions and restrictions listed.

C-27J Spartan operations may be performed prior to being fully PJ qualified to include initial progression from JM School.

- 8. Drop Zone Support Team Leader (DZSTL). The DZSTL must be an E-5 or above, a graduate of a recognized Pathfinder course, or a graduate of the USASOC Jumpmaster course (with specific ground marking release system (GMRS) and verbally initiated release system (VIRS) training), or a graduate of an authorized DZSTL Training Support Package course. The DZSTL will also current Jumpmaster and a graduate of an authorized Jumpmaster course. The DZSTL will perform all duties associated and applicable to the operation IAW Chapter 8 of this SOP and:
 - a. Setup the DZ for CARP operations when indicated for VIRS operations IAW FM 3-21.38 with any additional special instructions as required by the responsible Commander. If any special instructions conflict with procedures outlined in FM 3-21.38, the responsible Commander will make the final decision and ensure it is addressed in the DRAW.
 - b. A minimum of one wind drift indicator (WDI) will be used to verify the calculated release point. A WDI has similar but not the exact drift characteristics as a Jumper, therefore the WDI is used to confirm that the DZSTL has calculated the drift in the correct direction and lands generally in around the desired PI. If the first WDI does not land accordingly or if there is a drastic weather change, the DZSTL will utilize a Pilot Balloon (PIBALL) to reconfirm / recalculate drift.
- 9. Airlift Mission Commander.
 - i. Ensure that all pilots have the correct radio frequencies and call signs for the airborne operation to be conducted. Air to ground frequencies will include FM for the DZSTL and FM (VHF or UHF) for Range Operations/Control or valid communications to the airspace controlling agency per local protocols.
 - ii. Coordinate with the supported unit NLT 24 hours prior to the airborne operation.
 - iii. Conduct and deliver the Pilot/aircrew brief to the JM team.
 - iv. Ensure all aviators assigned to the mission fully understand AR 95-1, *Flight Regulations*, FM 3-04, *Army Aviation*, and CAASOP standards.
 - v. Ensure all assigned A/C are setup for parachute operations IAW with this Chapter and make airframes available to JMs in order to perform taping and preparation as appropriate prior to the arrival to the DZ and loading of any PAX.

11.3 Drop Zone Coordination and Verification of Release Point

- 1. For proper setup and management instructions of DZs for VIRS, see FM 3-21.38. The purpose of this section is to clarify coordinating requirements and the proper use of WDIs.
- 2. Coordinating instructions. NLT 24 hours prior to the airborne operation the responsible Commander and the Airlift Mission Commander will hold a briefing on aviation procedures and coordinate details regarding the operation:
 - a. Topics include:
 - i. Radio frequencies and call signs.
 - ii. DZSTL responsibilities and timelines.
 - iii. Weather forecast and weather decision (WX) time and place.

WX should be conducted prior to sending Jumpers and air items to the DZ.

- iv. Emergency procedures.
- v. Availability of airframes for JM inspection and any preparatory work that must be completed per this SOP.
- b. Required audience for this briefing:
 - i. MACO.
 - ii. Airlift Mission Commander.
 - iii. DZSTL.
 - iv. JMs (at least one per A/C, preferred all JMs).
- 3. Verification of release point via use of WDIs. Utilization of, at least, one WDIs will be used for all airborne operations that utilize U.S. Army aircraft in order to verify DZ calculations and verify the appropriate release point made by the DZSTL.
 - a. Definition. A WDI is a tool dropped from an A/C to verify wind conditions and drift calculations of a DZSTL prior to dropping PAX. A WDI has similar drift characteristics of a T-11 parachute and can be constructed at the unit level.
 - b. Creation of WDIs at the unit level. In order to create a WDI, acquire the following supplies:
 - A. 10-inch wide x 20-feet long crepe paper roll. Crepe paper rolls are usually made in measurements of 20-inch wide x 10-feet long rolls which would necessitate cutting the roll in half and then securing one roll to the other with tape to get the desired length.
 - B. Three x standard wire coat hangers.
 - C. Clear, packaging tape or a similar adhesive tape.

- c. Assembly technique.
 - A. If the crepe paper requires modification, as listed above, perform those actions. Ensure the crepe paper matches the dimensions of 10 inches wide x 20 feet long.
 - B. Cut the wire coat hangers into 10-inch strait lengths. This will provide the necessary weight to maintain proper drift characteristics.
 - C. Place all three wire sections at the base of the crepe paper and begin rolling them inside 3-5 complete rolls. Tape the rolled wires in place with the tape.
 - D. Continue to roll the rest of the crepe paper until it is completely secured relatively tightly.



Figure 11.3a – Assembly of the Wind Drift Indicator

- d. Proper use of WDIs. Follow the following procedure to utilize WDIs appropriately:
 - i. Ensure the JM in the A/C has at least two WDIs to properly verify the release point. One primary and one back up.
 - ii. Upon the verbal order of the DZSTL, the JM will release the rolled WDI sharply down from the A/C.
 - iii. The DZSTL will monitor the WDI until it lands on the DZ in an acceptable location in reference to the PI. If necessary the DZSTL will launch another PI ball, recheck their drift calculations and throw a second WDI to confirm.

11.4 C-27J Spartan

1. General information. The C-27J Spartan is a medium and short range, high wing transport aircraft powered by two turboprop engines and is considered "high-performance". The A/C is capable of conducting mass exiting operations from the paratroop doors or MFF and static line over the ramp operations.

When CAF units are conducting airborne operations from the paratroop doors of a C-27J, ADEPT option 2 will be utilized as a risk mitigation to prevent high altitude collisions and entanglements.

- 2. Configuration. The USASOC Flight Detachment will be responsible for the proper configuration of the C-27J Spartan for airborne operations. Typically, only the outboard seats will be installed with a maximum capacity of 28 seats (22 Jumpers, 2 JMs, 2 Safeties, 2 Loadmasters). Center seats may be installed to increase the number of Jumpers; however it is recommended that only the outboard seats be utilized.
- Composition of the JM team: 3.
 - a. One x PJ.
 - b. One x AJ.
 - c. Two four x Safeties (if more than two Safeties are utilized, the equivalent number of Jumpers will be lost from the airborne operation).
- 4. Inspection of the A/C. The JM team will conduct the following inspection prior to takeoff:
 - a. Ensure that serviceable seatbelts exist for every seated PAX.
 - b. Inspect both the port (left) and starboard (right) anchor line cables IAW Chapter 6, 6.3, (g), Aircraft Inspection with the same inspection criteria. They must be attached to the forward bulkhead, through the anchor line support bracket just behind both paratroop doors, and terminally ending to the aft end on the corresponding side of the top of the tailgate.

Neither anchor line cable will have more than five inches of overall play when properly installed and ready for the airborne operation.

- 5. Seating arrangement (outboard seats only, ADEPT option 2).
 - a. Eleven Jumpers seated in two sticks forward of the paratroop door with one through 11 seated on the PJ's paratroop door and 12 through 22 on the AJ's paratroop door.
 - b. The JM team and Loadmasters will be seated in the six seats aft of the paratroop doors on their corresponding sides.

C-27J No Center Row Seating

- 24 Jumpers
- 2 Safeties



Figure 11.4a – Seating Diagram for a C-27J Spartan

- 6. Jump commands and actions for ADEPT option 2 from the paratroop doors.
 - a. At the 10-minute time warning, or 1,000 feet AGL for shorter flights, the aircrew will turn on the red jump caution lights and will notify the JM once their inspections are complete. Loadmasters will issue the "remove seatbelts" hand signal (formed fist with thumb and pinky fingers extended, shaking clockwise and counterclockwise). The JMs and Jumpers will undo their seatbelts at this time.
 - b. The JMs will face aft, attach their USL snap hooks to their appropriate anchor line cables (forward of the anchor line support bracket), turn towards the skin of the A/C to face forward and begin issuing jump commands (as previously described for all high-performance A/C) in tandem as follows:
 - i. "GET READY!"
 - ii. "PORT SIDE PERSONNEL, STAND UP!" Both JMs will take the same arm signaling actions as if giving the jump command of "INBOARD PERSONNEL, STAND UP!" except both JMs will point in the down position to the port side.
 - iii. "STARBOARD SIDE PERSONNEL, STAND UP!" Both JMs will take the same arm signaling actions as if giving the jump command of "INBOARD PERSONNEL, STAND UP!" except both JMs will point in the down position to the starboard side.
 - iv. "HOOK UP!" Maximum of 13 Jumpers per anchor line cable.
 - v. "CHECK STATIC LINES!" followed by the supplementary jump command of "LAST TWO JUMPERS TURN TOWARDS THE SKIN OF THE AIRCRAFT, SECOND TO THE LAST JUMPER, CHECK THE LAST JUMPER'S STATIC LINE!".
 - vi. "CHECK EQUIPMENT!"
 - vii. "SOUND OFF FOR EQUIPMENT CHECK!"
 - viii. Once both JMs have confirmed that both sticks have sent up a complete equipment check, conduct their USLM checks IAW Chapter 6 of this SOP and wait until control of the paratroop door is given to them by the Loadmasters. Once control has been appropriately transferred, the JMs will immediately move into conducting paratroop door checks by:
 - A. Transferring control of their USLM to their corresponding Safety.
 - B. The JM will secure the upper MEDEVAC support bracket with their lead hand (closest to the skin of the A/C) and rotate into the paratroop door.



Figure 11.4b – MEDEVAC Support Bracket

ix. Secure the trail edge of the paratroop door by the trail seat back support rail with the trail hand.



Figure 11.4c – Trail Seat Back Support Rail

x. With the lead hand, the JM will grasp the paratroop door lifting bar, raise the door up slightly, and then pull it back down to the paratroop door up lock. The JM will then re-secure the MEDEVAC support bracket with their lead hand.



Figure 11.4d – Paratroop Door Lifting Bar

xi. The JM will then conduct a visual inspection to ensure that the locking pin on the lead and trail edges of the jump platform are properly seated in the grove and that the handle is in the full locked position.



Figure 11.4e – Paratroop Door Up Lock



Figure 11.4f – Jump Platform Locking Pin in Groove

The handles of the locking pins should be secured with hook pile tape or 100 mph tape in order to prevent a potential snagging hazard for the paratroopers as they approach and exit through the paratroop doors.

xii. With their trail hand, the JM will trace the trail edge of the paratroop door (with a knife cutting edge, fingers extended and joined, palm contacting the exterior of the A/C) at the "12 o'clock" position. The

JM will then begin tracing aft-ward and then down the trail edge of the paratroop door until contact is made with the jump platform. Maintaining contact, the JM will then be beginning to trace back to the start position.

xiii. After ensuring the paratroop doors are serviceable and safe for use, the JMs will then conduct their initial clear to the rear check by firmly grasping the MEDEVAC support bracket with the lead hand and the trail seat back support rail with the trail hand while placing the trail foot on the center of the jump platform. Lean out of the paratroop door by bending at the waist at 90 degrees while maintaining a slight bend in both arms. The JM must make, at a minimum, a visual sweep from the 6 o'clock to the 9 o'clock positions ensuring there are no hazards that could come in contact with the Jumpers as they exit the A/C.

Once the Safety has taken control of the JM's USLM, they will utilize their peripheral vision to keep the slack out of the USLM while moving with the JM as they perform their paratroop door and clear to the rear checks. The Safeties will maintain eye contact down their stick checking for unsafe actions and issuing orders to correct them.

c. The JMs will then take up their rest positions in the paratroop door, being mindful of wind exposure to their reserve parachute, and conduct appropriate actions for identifying and confirming their one minute and 30 second landmarks.

It is imperative to ensure that the locking pins are properly seated. The lack of a wind deflector make properly emplacing the jump platform difficult while in flight.

- d. After the 30 second landmark has been identified and confirmed with the opposite paratroop door, the JMs will conduct a final clear to the rear check.
- e. Once verifying that safe conditions exist outside the A/C, the JMs will move back inside the A/C by taking the appropriate measure as previously described in Chapter 6.
- f. Once both JMs are in the ready position, they will issue themselves the third and final thumbs up and then simultaneously issue the jump command of "STAND BY!"
- g. The JMs will position themselves on the lead edge of the paratroop door and regain positive control of their USLM from their corresponding Safety.
- h. The Safeties will secure the number one Jumper's USLM with the "trifecta of knuckles" and escort them to the paratroop door.

The Safety does not need to physically control the number one Jumper by grabbing them by their uniform or diagonal back strap unless they are identified as an inexperienced Jumper and it is previously rehearsed.

- i. Once both number one Jumpers are properly positioned in the paratroop door and the remaining Jumpers have taken the appropriate actions, the PJ will monitor the lead set of jump caution lights while the AJ will watch the PJ's paratroop door over or under their trail arm.
- j. Once the lead jump caution light illuminates green, the PJ will issue their number one Jumper the verbal and physical final jump command of "GO!"

- k. While the PJ continues to monitor for unsafe actions by Jumpers, verifying the "green light" is still illuminated, and conducting visual towed parachutist checks, the AJ will continue to monitor for the final Jumper/" Stick Pusher" on the PJ's stick.
- I. Once the final Jumper on the PJ's stick has exited, the AJ will immediately turn their head to verify that their lead set of jump caution lights are still illuminated green and issue their number one Jumper the verbal and physical final jump command of "GO!"
- m. The AJ will begin to monitor for unsafe actions by Jumpers, verifying the "green light" is still illuminated, and conducting visual towed parachutist checks while the PJ rakes their USLM for separation, transferring control of their USLM to their corresponding Safety and centering themselves in their paratroop door. Once in position, the PJ will turn over their lead shoulder and watch the AJ exiting their stick.
- n. The AJ will take normal actions once their last Jumper exits on their paratroop door and make a vigorous exit.
- o. The PJ will then take normal actions once the AJ exits and then make a vigorous exit out of their paratroop door.
- p. Both Safeties will conduct towed Jumper checks, confirm with each other and complete any actions in order to recover all equipment and complete the mission as normal.

The C-27J Spartan is equipped with a towed parachutist retrieval system. In the event of a towed Jumper, take appropriate actions as listed in Chapter 6.

- 7. Special considerations for over the ramp operations.
 - a. CE is not authorized to be worn when exiting over the ramp.
 - b. Five-foot USL extensions must be installed by Parachute Riggers to all parachute systems being utilized.
 - c. Jumpers will exit from the center of the ramp.
 - d. The Safety in the aft portion of the AC must use a safety harness. The harness will be secured after the slowdown has been initiated and the ramp is opened.
 - e. Airdrop speed will be 130 knots, (+ or -) 5 knots.
 - f. When using GMRS, the Loadmaster should remove the cargo ramp guides to improve the JM's ability to spot markings from the ramp.

11.5 UH-60 Blackhawk

It is highly suggested to utilize T-11 reserve parachute tuck tab inserts for all UH-60 Jumpers to assist in preventing accidental activation of the reserve parachute while exposed to rotor wash or until the T-11 reserve single pin parachute is released and the inserts are no longer required.

- 1. General information. The UH-60 Blackhawk is a four-blade, twin turbine, medium lift, utility helicopter (UH) which is capable of safely delivering up to eight Jumpers, via controlled release, to the DZ.
- 2. **Configuration.** The supporting aviation unit will prepare the A/C by removing all required hard point equipment, such as seats, patient carousel, etc. The following preparation will be done by the JM team, preferably 24 hours prior to P-hour, but can be done at the DZ prior to loading Jumpers:

All taping listed in this section will be done with tape, pressure sensitive, adhesive, olive cloth (100 mph tape). Taping must not interfere with the closing, locking, or opening of the cargo doors in flight.

- 3. Tape anything that could snag the Jumper upon exiting from the seated position or cut/fray the Jumper's USLM upon exiting on the cargo floor troop seat area including:
 - a. All tie-town fitting wells.
 - b. Any sharp edges on the cargo floor or door jambs.
 - c. Weather stripping on the cargo doors below the door catch.
 - d. The entire trail edge of the cargo door.
 - e. If weather stripping below the cargo door is missing, use felt to pad the door edge and completely cover the padding with tape.





Figure 11.5a – Proper Taping of UH-60 for Airborne Operations

f. Tape the radio frequency (RF) antenna forming a web to decrease the chances of USLM or deployment bags being rapped around them possibly damaging the equipment and making retrieval difficult. When taping the RF antenna, ensure tape is mated to each side so that adhesive is not exposed. On layer of tape should be covering the other so that the olive cloth is facing outwards in both directions.



Figure 11.5b – Proper Taping of RF Antennas (Port Side Only)

- g. Modified anchor line system (MALS). Pre-assembled MALS can be ordered through normal logistics systems with NSN: 1670-00-999-3544. Install the MALS by:
 - i. Center the MALS on the cargo floor with the quick fit adaptor with free running end facing aft. Four Drings will be facing towards the port side cargo door and the other four will be facing the starboard side cargo door. The connector snaps will be oriented, so they align with their corresponding tie down fittings (3B, 3C, 4B, 4C).



Figure 11.5c – Proper Orientation of the MALS

ii. Attach the connector snaps to their corresponding tie down fittings with the opening gates facing inboard (when the strap is tightened, the opening gates may face skyward). Once the connector snaps are attached, secure them with the safety wire and lanyard, and then tape the circumference of the connector snap with 100 mph tape.

iii. Adjust the strap so that the quick fit adaptor between the aft-ward connector snaps and pull all slack out of the nylon. Secure the free running end with an overhand knot secured snug against the quick fit adaptor. Roll the excess, as to not cause a ramp like effect, and secure to the main strap with 100 mph tape.

If the airborne operation only calls for six total Jumpers (three per cargo door), tape the forward most (towards the pilot's compartment) d-ring on each side down to prevent their use.



Figure 11.5d – Properly Installed MALS

- b. Safety belt and safety harness installation.
 - i. Attach the 112-inch C3A safety belt at tie-down fittings 1A and 5A on the port cargo door and 1D and 5C on the starboard cargo door. The belts should meet at the number two and number six Jumpers with their male and female connectors.
 - ii. Attach the 86-inch C3A safety belt at tie-down fittings 1A and 1D in order to properly secure Jumpers number four and eight.
 - iii. Ensure safety harnesses are serviceable and available to both the Crew Chief and JM. If serviceable safety harnesses are not available, the JM will utilize an AEBP.
- 4. **Composition of the JM team.** There will only be one x static PJ per AC for any singular lift for UH-60 airborne operations.
- 5. **Inspection of the A/C.** Before boarding, the JM and Pilot/Pilot's Representative will jointly inspect the UH-60 for the following:
 - a. Any and all loose objects/FOD in the cargo compartment. All objects must be secured or removed prior to loading.

- b. Sharp edges that could cut or fray the Jumper's USLM upon exiting the A/C and tie-down fittings that could pose risk to snagging the Jumper or their equipment. Ensure proper taping prior to loading.
- c. The cargo doors are locked in the full, open position and can be fully closed in the event of an emergency.
- d. The MALS is properly installed and secured to the cargo floor as previously described in this paragraph.
- e. Seat belts are serviceable and secured appropriately.
- f. A headset/communications helmet and intercom jack are available for the JM. Ensure the intercom extension is properly secured overhead.



Figure 11.5e- UH-60 Communications Cord Properly Secured

6. Seating arrangement.

- a. Jumpers are organized into sticks of eight and will wait in a designated point in reverse chalk order to be escorted to the A/C by the MACO.
- b. Jumpers will have their USLM routed over their right shoulder and have their USL snap hooks secured in their right hand as they approach the A/C for boarding.
- c. The orientation of the A/C (which side cargo door is facing the stick) will dictate the loading of Jumpers.

i. Starboard-side approach. If the closes cargo door facing the stick is the starboard-side, Jumpers eight through five will approach the starboard-side and then make a 90 degree turn and follow the Crew Chief around the nose of the A/C to the port-side. Jumpers four through one will follow the directions of the static JM. Once Jumpers eight through five reach the port side, they will wait until the JM takes control and issues instructions.

When attaching the USL snap hook to the MALS, ensure the spring opening gate is facing towards the pilot's compartment for both sides.

ii. Port-side approach. If the closest cargo door facing the stick is the port-side, Jumpers eight through five will approach the port cargo door and follow the instructions of the static JM. Jumpers four through one will peel off once they arrive at the A/C and follow the Crew Chief around the host of the A/C to the starboard-side. Once Jumpers four through one reach the starboard-side, they will wait until the JM takes control and issues instructions.



Jumpers number four and eight will be positioned inside the cargo compartment with their backs facing the pilot's compartment. DO NOT attempt to sit all four Jumpers in the cargo door at the same time. This will cause congestion and interfere with the jumpers exits.

- d. Once a Jumper approaches the JM, they will hand their USL snap hook to the static JM and watch the JM properly secure it to their corresponding d-ring on the MALS. The JM will issue the Jumper the command of, "YOU WATCH ME!" as they connect the USL snap hook to ensure there is verification of the USL snap hook correctly being connected.
- e. After the Jumper visually verifies that their USL snap hook has been properly secured to their designated d-ring on the MALS, they will turn away from the USLM and take a seat in their appropriate position.

Jumpers four and eight will secure their USLMs with a reverse bight to keep excess under control until they move into position for exiting.

- f. Once all Jumpers are seated, the JM will stow all excess USLM in the next available retainer band on the inner static line stow bar.
- g. The JM will issue the command of "FASTEN SEAT BELTS!" Jumpers four and eight will pass their ends of the C3A seat belt towards each other, fasten it in place, and pull all slack out from the ends. The cargo door C3A seat belts will be passed from the Jumpers located on ends of the cargo door towards the center Jumper and fastened together. Once properly fastened at the number two and six Jumpers, respectively, the Jumpers located on the ends will remove all slack. The JM will inspect all seat belts to ensure they are properly routed and secured prior to lift off.

Ensure that the C3A seat belt is routed on TOP of the reserve parachute! This is a mandatory safety measure! Jumpers should support the C3A seat belt with one hand and maintain ripcord handle awareness with the other. Ripcord handle awareness is paramount in UH-60 airdrops.

7. **Jump commands** and actions in the A/C from the cargo door. If the cargo doors are closed during flight, the JM will brief Jumpers three and seven on the proper opening procedures before take-off. This should be addressed during SAT. At the six-minute mark, the pilot will either land or come to a hover and the number three and seven Jumpers will open the cargo doors and pass them to the JM, who will ensure they are locked in the open position before taking back off or leaving the hover. The following modified jump commands and actions will be performed for UH-60 airborne operations:

Have the Jumpers remove their seat belts at 1,000 feet AGL or upon the pilot's permission.

- a. "GET READY!" The JM will issue this at approximately the four-minute mark.
- b. "CHECK STATIC LINES!" On this command the Jumpers will lean slightly forward, and the JM will begin checking USLM (starting at the number one Jumper and moving numerically to number eight) from the USL snap hook, tracing up through the SLS retainer band and ensuring that no portion of the USLM is routed beneath the man curved pin protector flap. If excessive amounts of USLM are identified, the JM will stow it in the next available retainer band on the inner static line stow bar. Once the check is complete, the JM will pull the Jumper's shoulder lightly back, so they are seated normally again.
- c. "CHECK EQUIPMENT!"
- d. "SOUND OFF FOR EQUIPMENT CHECK!" Jumpers will place one of their hands on top of their helmet in a "thumbs up" position if their equipment is free of deficiencies. The JM will confirm the status by placing their hand on top of the extended thumb and pushing it down in numerical order from Jumper number one to eight.
- e. "SIT IN THE DOOR!" This command is given once the pilot relays that the 30 second mark has been met. If not their already, Jumpers one, two, three, five, six, and seven will place their feet and knees

Typically, Jumpers are loaded and seated in the cargo door with their legs already outside the A/C. If Jumpers already have their legs outside the A/C, at the command of "SIT IN THE DOOR," Jumpers will simply place their hands on the cargo floor in preparation to exit.
together outside of the A/C with both hands placed on the edge of the cargo floor, fingers pointed outward. Jumpers four and eight will remain in place ensuring positive control of their USLM.

- f. "STAND BY!" This is given when the pilot notifies the JM that they are approximately eight to 10 seconds from the PPI. Jumpers should ensure that the number one and number five Jumpers have extra room to make a good, vigorous exit and not come in contact with the trail edge of the cargo door.
- g. "GO!" This command can only be given once the pilot issues the command of "EXECUTE!" There are no jump caution lights installed on UH-60s and the pilot assumes all responsibility for relaying permission to jump and will issue a "red light" in the event conditions exist that prevent the continued release of Jumpers. Conduct exiting procedures as follows:
 - i. The JM will issue the command of "GO!" to the number one Jumper and sharply tap the top of the Jumper's helmet.
 - ii. The Jumper will then sharply push up and out with both hands from the cargo floor, clearing the pack tray from the A/C before immediately assuming a good, tight body position and beginning their appropriate count for the parachute system being utilized.
 - iii. The JM will ensure the Jumper they just released has fully exited before moving to the next Jumper and issuing the physical and verbal command of "GO!"
 - iv. Jumpers will shift aft after each previous Jumper has exited to make room for the number four and eight Jumpers to assume a good exiting position while controlling their USLM.

The JM may hear the command of "EXECUTE, EXECUTE, EXECUTE!" from the DZSTL through the onboard communications system. Do NOT exit Jumpers until the pilot confirms the order of "EXECUTE!"

- h. After all Jumpers have exited or any jump refusals have been secured inside the A/C, the JM must conduct a towed Jumper check out both cargo doors (see safety precautions for procedures for towed Jumpers and jump refusals). Once confirmed clear, retrieve all deployment bags inside the A/C and place them inside the AKB or UPRB as appropriate. If deployment bags become entangled in the RF antenna, or another protuberance, the JM will secure the slack and notify the Crew Chief to take appropriate action.
- 8. **Safety precautions.** The following are special considerations when conducting airborne operations from UH-60 Blackhawks:
 - a. Ripcord handle awareness must be maintained at all times and enforced by the JM. Once loaded, once hand must be securing the ripcord handle and movement must be minimized.
 - b. Communications must be maintained between the JM and the pilot for the entire airborne operation. If comms are lost, the operation must cease until they are restored.
 - c. If a towed Jumper is identified, all exiting will cease, and the JM will alert the pilot to move into a hover at drop altitude. The JM will recover any deployment bags and monitor the Jumper to ensure they will not break free during descent. Once the JM is in position to monitor the Jumper, the pilot will begin a slow descent and radio the DZSTL to alert the medical support package of the situation. Once the Jumper is on the ground, the JM will unhook the USL snap hook from the MALS and medical support will tend to the casualty as appropriate.
 - d. Jump refusals occur when the Jumper is given three physical and verbal commands of "GO" and has not exited the A/C. Take the following action in the event of a jump refusal:

- i. After the third "GO!", the JM will notify the jump refusal, "YOU ARE A JUMP REFUSAL, I AM REMOVING YOU FROM THE CARGO DOOR!"
- ii. The JM will assist the jump refusal fully inside the cargo compartment, along with all subsequent Jumpers to the refusal.
- iii. The JM will issue the jump refusal the lawful command of, "DO NOT TOUCH YOUR EQUIPMENT!" This is a lawful and binding order, regardless of rank or position differences between the jump refusal and JM.
- iv. The cargo doors will be closed, and the pilot will return to the LZ. Ensure the pilot radios to notify the MACO to meet the A/C upon landing.

Do NOT disconnect the USL snap hook from the MALS until the A/C has landed and in the presence of the MACO. Once safely on the ground, route the USLM over the right shoulder of the jump refusal and connect the USL snap hook to the carrying handle of the reserve parachute.

- v. The MACO will secure the jump refusal, re-issue them the command of, "DO NOT TOUCH YOUR EQUIPMENT!" and escort them to the designated area to conduct JMPI. Once JMPI is complete, a TI will be conducted by a current and qualified Parachute Rigger (usually the PRIC).
- e. The drop speed for UH-60 Blackhawks is between 65 and 75 knots with a minimum drop altitude of 1,500 feet AGL to compensate for the delayed opening sequence. The pilot must maintain drop altitude and speed until all deployment bags are retrieved inside the A/C. If the deployment bags become fouled on the RF antenna, the JM will secure the slack of USLM until landed.

11.6 CH-47 Chinook

- 1. General information. The CH-47 "Chinook" is a tandem rotor, twin turbine, heavy lift, cargo helicopter (CH) which is capable of safely delivering up to 28 CE or Hollywood equipped Jumpers to the DZ.
- 2. **Configuration.** The supporting aviation unit will prepare the A/C by ensuring that the anchor line cable is properly installed from the hard point from the bulkhead to the aft starboard side of the A/C and install seat belts for all seats being utilized.



Figure 11.6a – Anchor line Cable Attachment Points, Fore and Aft

- 3. **Composition of the JM team.** Depending on the decision of the Airborne Commander, there are two authorized JM team choices:
 - a. One static PJ. The static JM will be positioned at the ramp of the A/C and issue all jump commands and release Jumpers per the "stop gate" method.

- b. One jumping PJ with one Safety. The jumping PJ will issue all jump commands and the Safety will release Jumpers with the "stop gate" method. The jumping PJ will be the number one Jumper for their stick.
- c. Additional safeties are authorized but the Safeties will **NOT** receive credit for a JM duty.
- 4. Inspection of the A/C. The JM team will inspect the A/C prior to loading to ensure:
 - a. Troop seats can be easily lifted and secured.
 - b. Every seat is secured in the down position.
 - c. All seats being used have a complete and serviceable seat belt set.
 - d. The ramp is clean and free of oil or water.
 - e. The anchor line is properly installed and serviceable IAW Chapter 6 of this SOP.
 - f. There are working headsets for the static JM or aft most Safety that will be conducting the "stop gate" release.

5. Seating arrangement.

- a. Jumpers are arranged into two sticks of 14 Jumpers.
- b. Odd numbered Jumpers will be seated on the starboard-side while even numbered Jumpers will sit portside with their USLM routed over their left shoulders and USL snap hooks secured to the carrying handle of their reserve parachute.



Figure 11.6b – CH-47 Seating Diagram

- 6. Jump commands and actions in the A/C at the ramp.
 - a. At the six-minute time warning (given by the pilot to the Crew Chief/JM with headset) the PJ will take the following action depending on their status:

- A. If the PJ is jumping, at the six-minute time warning (given by the pilot to the Crew Chief, who will relay the info to the JM team) the PJ will stand up facing the ramp, hook up their USL snap hook to the anchor line cable and transfer control of their USLM to the aft Safety.
- B. If the PJ is static, at the six-minute time warning (given by the pilot to the Crew Chief, who will relay the info to the JM team) the PJ will stand, face the Jumpers and begin issuing jump commands.
- b. "GET READY!"
- c. "PORT-SIDE PERSONNEL, STAND UP!" Port-side personnel will stand up and secure their seats in the up position.
- d. "STARBOARD-SIDE PERSONNEL, STAND UP!" Starboard-side personnel will stand up and secure their seats in the up position. Once starboard-side personnel have stood up, port side personnel will intermingle with starboard-side to get into chalk order.





Ensure that all Jumpers intermingle properly! If the first few Jumpers stack behind each other (like high performance exiting) it will cause significant congestion in the front of the A/C and prevent the proper checking of USLMs.

e. "HOOK UP!" Jumpers disconnect their USL snap hook from the carrying handle of the reserve parachute and connect it to the anchor line cable, ensuring the spring opening gate is facing starboard. They will trace down until the USLM is approximately waist level and gain a reverse bight with a thumb-less grip.



Figure 11.6d – Proper USLM Control with Reverse Bight

- f. "CHECK STATIC LINES!" The Jumpers will ensure that the USL snap hook is properly attached to the anchor line cable and reconfirm their thumb-less, reverse bight is approximately at waist height. They will then check the USLM on the Jumper immediately to their front to ensure the USLM is not routed underneath the riser assembly and that excess USLM is not free. The Safeties will then check all USLMs for proper routing, ensure a proper reverse bight is maintained, excess USLM is properly stowed, and the USLM is not routed under the main curved pin protector flap. Once satisfied with the inspection they will tap the Jumper on the helmet signify the check is complete.
- g. "CHECK EQUIPMENT!" No change to actions on a high-performance aircraft.
- h. "SOUND OFF FOR EQUIPMENT CHECK!" No change to actions on a high-performance aircraft.
- i. Depending on the position of the PJ:
 - A. If jumping, the PJ will turn counterclockwise and re-secure their USLM from the aft Safety, forming a reverse bight as previously described in this paragraph. The Safety will then take position on the ramp to make "clear to the rear" checks.
 - B. If static, the PJ will move into making "clear to the rear" on the ramp of the A/C.

The "clear to the rear" check will be done from the notification from the pilot that the one minute time warning has been met and will continue until the 30 second time warning is given. Continue to monitor until the 30 second time warning is relayed!

j. "STANDBY!" This is only given once relayed to the JM controlling the ramp from the pilot. Once given, the JM controlling the ramp will take up position slightly port side and on the hinge of the ramp with their right arm outstretched at the elbow locked position, at shoulder height immediately in front of the number one Jumper.



Figure 11.6e – Standby Stop Gate Position

- k. "GO!" Upon illumination of the "green light", the JM controlling the ramp will issue the command and raise their arm to allow the number one Jumper to exit.
 - A. If the number one Jumper is the PJ, they will issue the command of "FOLLOW ME!" followed by a waving, overhead motion with their right arm with their hand making a knife cutting edge, fingers extended and joined.
 - B. If the PJ is static, the number one Jumper will just make the appropriate exit.



Figure 11.6f – Releasing Jumpers with Stop Gate Method

I. The Jumper will then make a 45 degree turn port-side on the ramp and begin walking off. Once the USLM is naturally pulled from the Jumper's hand, they will place their hands on the ends of the reserve parachute, square up on the ramp and walk off.

Jumpers must not jump from the ramp of a CH-47 to prevent contacting the top of the A/C upon exiting. This must be reinforced during SAT.

- m. Each Jumper will receive a "stop gate" physical and verbal release with a one second interval between each Jumper. Before each release, the JM controlling the ramp must confirm that the aft jump caution light is still illuminated green and that no USLM is pulled flat on the ramp. If so, immediately move Jumpers forward, away from the ramp and immediately move into towed Jumper procedures (see safety precautions in this paragraph).
- n. Once the last Jumper has exited, ensure there are no towed Jumpers and retrieve the deployment bags inside the A/C and secured in AKBs or UPRBs.
- 7. **Safety precautions.** The following are special considerations when conducting airborne operations from a CH-47 Chinook:
 - a. Once Jumpers are hooked up, ensure they properly intermingle and do not crowd the pilot's compartment due to poor spacing.

- b. All static JMs will wear either a safety harness or an AEBP.
- c. The ramp cannot be lowered unless all Jumpers are seated with their seat belts fastened or they are all hooked up.
- d. The ramp must be lowered to three degrees below horizontal prior to exiting Jumpers. Ensure the Crew Chief understands the ramp position requirements.
- e. The JM will notify the pilot immediately if a towed Jumper is identified. All exiting will cease, and the JM will alert the pilot to move into a hover at drop altitude. The JM will recover any deployment bags and monitor the Jumper to ensure they will not break free during descent. Once the JM is in position to monitor the Jumper, the pilot will begin a slow descent and radio the DZSTL to alert the medical support package of the situation. Once the Jumper is on the ground, the JM will unhook the USL snap hook from the anchor line cable and medical support will tend to the casualty as appropriate.
- f. Jump refusals occur when the Jumper is given three "stop gate" commands of "GO" and has not exited the A/C. Take the following action in the event of a jump refusal:
 - i. After the third command of "GO!" and the Jumper has not begun to exit, the JM controlling the ramp will raise their hand in the jump refusal's face and back them away from the ramp while issuing the jump refusal, "YOU ARE A JUMP REFUSAL, BACK AWAY FROM THE RAMP!"
 - ii. Once the jump refusal is cleared from the ramp, issue the command of, "DO NOT TOUCH YOUR EQUIPMENT!" and notify the Crew Chief to raise the ramp to the closed position. This is a lawful command regardless of the rank or position difference between the JM and the jump refusal.
 - iii. Once the ramp is fully closed, disconnect the jump refusal's USL snap hook from the anchor line cable and re-route it over their left shoulder. Issue the Jumpers to the jump refusal's rear to disconnect as well. Secure the jump refusal in a troop seat and secure their seat belt while re-issuing them the command of, "DO NOT TOUCH YOUR EQUIPMENT!".
 - iv. Have the pilot relay the situation to the MACO to ensure they meet the jump refusal upon landing and escort them to the designated JMPI area.
 - v. The MACO will conduct a full JMPI followed by a TI from a current and qualified Parachute Rigger (usually the PRIC).
- g. Drop speed is between 80 and 110 knots. The optimal and planned speed with be 90 knots.
- h. Planned drop altitude will be 1,500 feet AGL, however if the AC is flying at 90 knots or higher, the Airborne Commander may authorize the minimum drop altitude of 1,250 knots. This must be addressed on the DRAW and approved by the DRAW Authority.

11.7 MV-22 Osprey

- 1. General information. The MV-22 "Osprey" is a twin engine, twin prop/rotor, high wing, high tail, tilt-rotor Marine vertical take-off/landing (MV) aircraft which is capable of "safely" delivering up to 8 CE equipped Jumpers or 16 Hollywood Jumpers to the DZ.
- 2. Configuration. The Marine Corps will ensure that the A/C is properly configured, and the anchor line cable is properly installed. Jumpers will be positioned on the floor or in the troop seats provided.

3. Composition of the JM team. JM teams mirror those of the CH-47, whereas the PJ may be static or jumping. If jumping, they will assume the role as the number one Jumper upon exiting. There may be one or two Safeties and the aft Safety will release Jumpers with the "stop gate" method as described in paragraph 11.6.

Due to the length of the A/C, two Safeties are suggested if utilizing safety harnesses. If only one Safety is assigned ensure an AEBP is available to maneuver inside the cargo compartment.

- 4. Inspection of the A/C. The JM team will inspect the A/C for the following:
 - a. Ensure that there is a seat belt for each Jumper being loaded and it is serviceable.
 - i. Seat belts for floor seated Jumpers will be routed through the main lift web above the chest strap and reserve parachute.

Seat belts must be used. Utilizing CGU-1/B or other field expedient methods of securing Jumpers is not authorized!

- ii. If Jumpers are utilizing the troop seats:
 - a. Ensure that the seat back webbing is set at the lowest setting.
 - b. Seat belts will be routed over the top pack closing flap of the reserve parachute as to not cause accidental activation of the reserve parachute.



Figure 11.7a – Troop Seats Properly Configured for Airborne Operations

- 5. Serviceability of the starboard anchor line cable. If the A/C is configured with both port and starboard side anchor line cables, have the Crew Chief remove the port side to prevent Jumpers from hooking up to the incorrect anchor line cable. Inspect and configure the starboard anchor cable by:
 - a. Ensuring it is not worn or frayed and is properly secured to the attachment points.

Only eight Jumpers may connected to the starboard anchor line cable per pass. It is not rated for additional Jumpers.

- b. Inspecting the two U-bolts located at fuselage section 589 for serviceability and ensuring the threaded ends are facing the skin of the A/C.
- c. Ensuring there is not more than five inches of overall play (total movement, not in one direction).
- d. The forward attachment point is secured with a cotter pin.
- e. The aft attachment point is secured with a safety wire.
- f. After inspection, tape and pad the anchor line stops (U-bolts) with 100 mph tape.
- 6. Inspect the ramp for the following:
 - a. Any sharp or protruding edges that could cut or fray the Jumper's USLM upon exiting the A/C. At a minimum, the lip of the ramp must be taped.
 - b. Ensure that the ramp fully opens and closes.
 - c. Ensure that the non-skid surface on the floor and ramp is present and serviceable.
 - d. Check for oil or water that could cause a hazard to Jumpers as they exit the A/C.
- 7. Ensure there is a working headset for the aft Safety/static JM to utilize for communication with the pilot.
- 8. In conjunction with the Crew Chief, ensure the following is inspected before flight:
 - a. That there are adequate first aid kits and they are not expired.
 - b. Fire extinguishers are present, fully charged and not expired.
 - c. All emergency exits are fully operational.
 - d. Emergency lights are operational, and the JM is briefed on their proper operation.
 - e. Conduct a final ramp check to ensure that it will position in the seventh light setting and locks in place for exiting procedures.
- 9. Seating arrangements, Jumpers may be seated in the troop seats provided or on the floor. All Jumpers will be secured with seat belts, regardless of seating arrangement. Up to two sticks of eight Jumpers per pass for Hollywood Jumpers and one stick of eight CE Jumpers can be loaded at one time. DO NOT attempt to load two sticks of eight CE Jumpers, as the narrow fuselage will greatly increase the probability of equipment fouling and activation of the reserve parachute.

MV-22 (Hollywood)

16 Jumpers (Only eight jumpers per pass)



Figure 11.7c – MV-22 Seating Arrangement (Combat Equipment)

10. Jump commands and action in the A/C at the ramp. Jump commands and actions to release Jumpers with the "stop gate" method mirror those listed for the CH-47 Chinook. Commands will be listed, but only variations from those listed in paragraph 11.6 will be expounded upon:

- 11. At the six-minute time warning (given by the pilot to the Crew Chief/JM with headset) the PJ will take the following action depending on their status:
 - a. Jumping PJs will transfer control of their USLM to the aft Safety, turn forward facing their Jumpers and begin delivering jump commands while positioning slightly port, just forward of the ramp hinge.
 - b. Static JM's will begin delivering jump commands while positioning slightly port, just forward of the ramp hinge.
- 12. "GET READY!"
- 13. "PORT SIDE PERSONNEL, STAND UP!"
 - a. Will be omitted if exiting Hollywood Jumpers for the first pass. The PJ may decide to use the jump command of "FIRST PASS PERSONNEL, STAND UP!" to reduce confusion.
 - b. If Jumpers are seated, the Safety/static PJ will assist the number one Jumper/jumping JM to their feet. The standing Jumper will then turn around and assist the number two Jumper to their feet, and so on until all Jumpers are standing from the floor.
- 14. "STARBOARD SIDE PERSONNEL, STAND UP!" Assist Jumpers to their feet in the same fashion as just described in "PORT SIDE PERSONNEL, STAND UP!"
- 15. "HOOK UP!"
- 16. "CHECK STATIC LINES!"
- 17. "CHECK EQUIPMENT!"
- 18. "SOUND OFF FOR EQUIPMENT CHECK!"
- 19. Once the equipment check has been confirmed:
 - a. Jumping PJs will turn aft and re-secure their USLM from the Safety. The Safety then will conduct their clear to the rear checks at the one minute and 30 second time marks.
 - b. Static PJs will move into conducting their clear to the rear checks at the one minute and 30 second time marks.
- 20. "STAND BY!"
- 21. "GO!" Depending on the PJ's role:
 - a. The jumping PJ will wait for the aft Safety to issue the jump command of "GO!" and release them via the "stop gate" method. The jumping PJ will make a waving motion with their right arm over-head once with a knife cutting edge, fingers extended and joined and yell, "FOLLOW ME!"
 - b. If the PJ is static, they will begin releasing Jumpers with the "stop gate" method as previously described in paragraph 11.6.

Jumpers must make a 45 degree turn towards the center of the ramp, square up with the end of the ramp, when the USLM is naturally pulled form their hand, place both hands on the ends of their reserve parachute with their fingers spread, and WALK OFF THE RAMP! Do not make and "up and out" exit off the ramp of the MV-22. The Jumpers will make contact with the top of the clam shell door and could injury the Jumper.

- 22. Safety precautions. The following are special considerations when conducting airborne operations from a MV-22 Osprey:
 - a. The ramp controlling/releasing JM MUST have constant communications with the pilot.
 - b. Crowded conditions inside the A/C require special attention by the Jumpers and JMs while inside the A/C to prevent fouling of equipment and accidental activation of the reserve parachute inside the A/C. Safeties must diligently inspect USLMs to prevent misrouting, incorrect reverse bights, and excess slack.
 - c. Deployment bags must be retrieved immediately after the final Jumper has exited and the towed Jumper check has been confirmed to be clear. The Crew Chief will begin to retrieve the deployment bags with the assistance of the JM. Do not disconnect USL snap hooks from the anchor line cable until the ramp is fully closed.
- 24. When the MV-22 Cargo Release System releases the cargo load, the Cargo Release System falls to the deck of the aircraft, presenting a tripping hazard to follow on Jumpers as they move towards the ramp to exit the aircraft. When conducting combination personnel and cargo airdrops in which the personnel follow the cargo out of the aircraft, unit commanders are required to implement controls designed specifically to mitigate the risks associated with this hazard.
- 25. Multiple container delivery systems maximum gross weight is 4950 pounds. Individual CDS maximum rigged weight will not exceed 2328 pounds gross rigged weight. Container footprint is limited to double A-22 or smaller. A single A-22-sized container height is limited to 60 inches as measured from bottom of the platform to the highest point on the load, including the parachutes. Double A-22-sized container height is limited to 50 inches as measured from the bottom of the platform to the highest point on the load and upper ramp door is completely open to maintain adequate clearance between the load and aircraft when load exits.
- 26. Due to the dynamics of the A/C, brief Jumpers and remind the pilot to expect the A/C to shift rapidly upon the exiting of each Jumper. Ripcord handle awareness is vital to ensure the shifting movement does not catch a Jumper's ripcord handle on another Jumper's pack tray.
- 27. MV-22s only support over the ramp operations.
- 28. The JM will notify the pilot immediately if a towed Jumper is identified. Take the following actions in the event of a towed Jumper:
 - a. All exiting will cease, and the JM will alert the pilot to move into a hover at drop altitude.
 - b. The JM will recover any deployment bags and monitor the Jumper to ensure they will not break free during descent. Once the JM is in position to monitor the Jumper, the pilot will begin a slow descent and radio the DZSTL to alert the medical support package of the situation.
 - c. MV-22s can safely lower a Jumper all the way to the ground. If the length of the USLM doesn't support a safe lowering distance between the Jumper and the A/C or there is an issue with the A/C providing a stable platform to bring the Jumper all the way to the ground, the PJ will monitor the Jumper until they

are 10 feet or less AGL and then CUT the USLM, releasing the Jumper to fall free to the ground. Confer with the Crew Chief and the pilot to take the appropriate action.

- 29. Jump refusals occur when the Jumper is given three "stop gate" commands of "GO" and has not exited the A/C. Take the following action in the event of a jump refusal:
 - a. After the third command of "GO!" and the Jumper has not begun to exit, the JM controlling the ramp will raise their hand in the jump refusal's face and back them away from the ramp while issuing the jump refusal, "YOU ARE A JUMP REFUSAL, BACK AWAY FROM THE RAMP!"
 - b. Once the jump refusal is cleared from the ramp, issue the command of, "DO NOT TOUCH YOUR EQUIPMENT!" and notify the Crew Chief to raise the ramp to the closed position. This is a lawful command regardless of the rank or position difference between the JM and the jump refusal.
 - c. Once the ramp is fully closed, disconnect the jump refusal's USL snap hook from the anchor line cable and re-route it over their left shoulder. Issue the Jumpers to the jump refusal's rear to disconnect as well. Secure the jump refusal in a troop seat and secure their seat belt while re-issuing them the command of, "DO NOT TOUCH YOUR EQUIPMENT!".
 - d. Have the pilot relay the situation to the MACO to ensure they meet the jump refusal upon landing and escort them to the designated JMPI area.
 - e. The MACO will conduct a full JMPI followed by a TI from a current and qualified Parachute Rigger (usually the PRIC).
- 30. Planned speed for static line operations is 125 knots (+ or -) 5 knots.
- 31. Planned drop altitude is 1,000 feet AGL and does not cause the two second delay in opening sequence that a rotary wing A/C generates (T-11 ATPS = six seconds, MC-6 PPS = 4 seconds).

11.8 CASA-212 Aviocar

- 1. General information. The CASA-212 "Aviocar" is a twin engine, turboprop, high wing, short take-off and landing (STOL) cargo aircraft which is capable of safely delivering up to 15 CE equipped Jumpers to the DZ, depending on the environmental conditions and fuel requirements.
- 2. Configuration. The USASOC Flight Detachment will be responsible for the proper configuration of the CASA-212 Aviocar for airborne operations. Exiting can occur from either the paratroop door (port side) or over the ramp. The JM may be required to:
 - a. Attach the hand winch to the right tie-down row in zone one and check that it is secure.
 - b. Ensure that the SL deflector plate is installed on the right side of the ramp and tape over the bolt head.
 - c. Fit and adjust safety harnesses, if utilized.
 - d. Ensure that the three-foot length of one inch tubular nylon webbing and 5,000lbs tie-down strap are secured and available for immediate use.
 - e. Install and check capability of interphone cord.
- 3. Composition of the JM team. The JM team will have one PJ (static or jumping) and one Safety. Static JMs are suggested to utilize AEBPs to prevent tripping hazards in the A/C.
- 4. Inspection of the A/C. The JM team will inspect the A/C for the following:
 - a. Ensure that all of the following equipment is present and serviceable:

- i. Hand winch.
- ii. SL deflector block.
- iii. Retrieval bar.
- iv. Retrieval strap.
- v. Extended interphone cord.
- vi. One x 2,500lbs tie-down strap.
- vii. One x 5,000lbs tie-down strap.
- viii. One x three-foot length of one inch wide tubular nylon webbing.
- ix. 100 mph tape.
- x. Safety harnesses or AEBP for all non-jumping PAX.
- b. Anchor line cable for:
 - i. Breaks or kinks IAW Chapter 6 of this SOP.
 - ii. Properly attached to the forward bulkhead by the reinforced anchor line attachment point and aft near the starboard side emergency exit door.
- c. Inspect the retrieval base on board and all attaching brackets.
- d. Ensure that the ramp fully opens and closes.
- e. Ensure that the non-skid surface on the floor and ramp is present and serviceable.
- f. Check for oil or water that could cause a hazard to Jumpers as they exit the A/C.
- g. Count the number of seats to ensure all Jumpers are able to be seated and secured with serviceable seat belts prior to flight.
- h. Verify with the pilots that both sets of jump caution lights (aft of paratroop door and starboard aft of the ramp) properly work.

If intercom system is non-operational, the pilot will signal the JM to monitor the jump caution lights with one ring of the alarm bell.

- i. All loose equipment is secured well away from Jumpers and does not interfere with their movement towards the ramp or exiting.
- 5. Seating arrangement.
 - a. 15 Jumpers will be seated in two sticks on either side of the A/C.
 - b. Jumpers will be seated in the troop seats provided and secured with the provided seat belts, routed over the top pack closing flap of the reserve parachute to prevent accidentally activating the reserve parachute inside the A/C.

- c. Even numbered Jumpers will be seated port side and odd numbered Jumpers will be seated starboard.
- 6. Planned speed for static line operations is between 90 and 110 knots.



Figure 11.8a – CASA 212 Seating Arrangement

- Jump commands and actions in the A/C at the ramp. Jump commands and exiting procedures are almost identical to those utilized for the CH-47 Chinook. The only difference is that the spring opening gate of the USL snap hook will be faced inboard, not to the starboard side. See paragraph 11.6 of this Chapter for exiting procedures.
- 8. Safety precautions.
 - a. When conducting bundle operations from the ramp, the JM must close the paratroop door. The paratroop door may be opened or removed before the ramp is lowered. The antenna, located beneath the tail section, must be removed prior to ramp bundle operations.
 - b. When ramp bundles are dropped, either a 15-foot static line with drogue parachute or the breakaway static line may be used.
 - c. Jumpers may follow ramp bundles. The JM and Safety or Loadmaster will exit the bundles, then the JM will conduct a quick, interior towed bundle check before releasing Jumpers with the "stop gate" method.
 - d. The JM will notify the pilot immediately if a towed Jumper is identified. Take the following actions in the event of a towed Jumper:
 - i. If the Jumper is to be cut free, the Loadmaster will partially retrieve the static lines in order for the JM to reach and cut the appropriate USLM.
 - ii. If the Jumper is to be retrieved, the Loadmaster uses the TPRS or installs a CGU-1/B about five and a half feet above the ramp. The static lines are retrieved over the CGU-1/B and the Jumper is pulled into the A/C under the strap with the assistance of the PJ and Safety as the Loadmaster releases tension from the static line retriever cable.

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• Chapter 12. Preparation of Equipment.

12.1 GENERAL INFORMATION

- 1. TC 3-21.220 provides the procedures for the use of a majority of equipment currently utilized. This Chapter will provide some of the same information; however, the redundancy has been minimized and the information provided is considered either necessary or very useful.
- 2. Weight limitations for the MAWC and Large MAWC differ in the CAASOP from those stated in TC 3-21.220. Airborne Commanders and/or the signature authority on the DRAW must approve exceptions to the recommended maximums listed in this Chapter.
- 3. It is a leader's responsibility to ensure their PAX are highly proficient in the proper rigging of individual items of CE and they maintain the serviceability of their equipment. It is the Airborne Commander's responsibility to ensure all unit and individual equipment involved is approved for airborne operations and is properly rigged IAW the CAASOP or TC 3-21.220. Equipment authorized for airborne operations can be found in the following documents:
 - a. TC 3-21.220 Static Line Parachuting Techniques and Training.
 - b. TB 43-0001-80 Personnel Parachute Authorized for Use List.
 - c. Safety Confirmations/Safety of Use Messages.
 - d. USAAAS AUL.
- 4. Testing New Equipment. Any test involving a new item of equipment or a procedure that causes a change to the normal use of an item of equipment will be examined by the ABNSOTD. After the ABNSOTD has determined the item or process is safe for airborne operation or the item is considered capable of air drop, the USAIS JM/USAAAS will evaluate and potentially alter the recommended rigging procedures or procedures for the items use. Those procedures will then be published in the CAASOP, or a CAASOP update, and the item will be added to the USAAS AUL, if applicable. Reference Annex A for an established process of recommending the testing of a new item of equipment through the USAAS and ABNSOTD.
- 5. The USAAAS AUL for SL airborne operations contains all equipment worn or rigged to a Jumper that is authorized for use during SL airborne operations. It is a living document, updated whenever an item is approved or removed. The USAAAS AUL can be found on the USAAAS DEPS page, and the XVIII Airborne Corps DEPS homepage.
- 6. Equipment Serviceability.
 - a. To ensure your Jumper's equipment is serviceable, use the following criteria during inspections for the HSPR and the HPT lowering line. A lot of this criteria also carries over to other items of equipment.
 - b. All components are present and clean.
 - c. Plastic components cannot be cracked or broken.
 - d. All webbing, straps, and nylon tapes are free of cuts, tears, excessive frays, and dry rot.
 - e. All metallic items are free of rust and corrosion. They cannot be cracked or bent, and all opening gates must have proper spring tension and full range of motion.
 - f. Release handle cable cannot be kinked, frayed, or corroded.
 - g. Ejector Snap activating lever must have proper spring tension and fully seat. The opening gate cannot be bent and the gap from the small tooth to the snap hook cannot exceed 8/100th's of an inch (the approximate thickness of a quarter).

- h. The yellow safety lanyard must be present and properly secured to the activating lever.
- i. All webbing retainers must be present and have sufficient elasticity. Replace with a retainer band if necessary.
- j. Hook and pile tape must be present and have sufficient adhesion.
- The rigging procedures described in this Chapter are both safe and correct. Individual and/or unit deviations are not authorized. Air items CANNOT be modified by anyone other than Parachute Riggers.
- 8. Tactical Jumps. All tactical jumps should be made with full CE to include an individual weapon rigged exposed or inside a weapons case, an authorized jumpable pack, and Load Bearing Equipment (LBE), i.e. a Tactical Assault Panel (TAP), and at the Airborne Commander's discretion.
- 9. Ammunition.
 - a. In training, individual weapons may be jumped with loaded magazines locked in the magazine well, bolt closed, chamber empty, and weapon on safe. A starter belt of linked ammunition may be placed in the pocket under the FPID of the MAWC.
 - b. Pyrotechnics will be safely secured inside the Jumper's equipment in a manner that will prevent accidental discharge.
 - c. During live fire operations the following equipment will be jumped in the manner specified below:
 - i. Explosives, i.e. C-4, TNT, or any main charge, will be unprimed and encased in an approved carrier or door bundle separated from all blasting caps/initiating systems.
 - ii. Timing/Initiating systems will be padded with the entire system separated from all explosives.
 - iii. Detonating cord will be placed inside the jumpable pack separated from all blasting caps.
 - iv. Time fuses must be disconnected from any fuse igniter or blasting cap and placed inside the jumpable pack.
 - Hand grenades and flash bangs will be prepared IAW USASOC Regulation 385-1 secured in a pouch on the LBV or in its original packaging inside an approved carrier.
 - vi. M18A1 is placed inside the designated pouch in the main compartment of the jumpable pack.
 - vii. 60mm mortar ammunition is placed inside the main compartment. If inside the original cardboard tube, it will be padded with a minimum of one turn of bubble wrap. If the tubing is missing pad with a minimum of two turns.
 - viii. 40mm ammunition is placed inside an approved pouch on the LBV or padded and placed inside an approved carrier.
 - ix. M3 MAAWS (Carl Gustaf) ammunition can be rigged two ways. In a large MAWC or attached to the Jumper's jumpable pack.
- 10. Limits to a Jumper's Combat Load.
 - a. Cross loading and efficiently rigging equipment.
 - i. A maximum of one primary weapon system will be placed inside the weapons case unless

specified in this Chapter. Snipers are an example of an exception to this rule. They may feel they cannot adequately defend themselves on the DZ with their sniper rifle and are authorized to rig an additional primary weapon system inside the weapons case.

- ii. CE should be delivered to the DZ rigged in a manner that provides the Jumper the best opportunity to move quickly to their assembly area and effectively react to contact once they reach the DZ. No item should be rigged inside the MAWC if it is to be immediately placed inside a jumpable pack before a Jumper can move out to their assembly area.
- iii. Loose ammunition will not be placed inside the weapons case. Ammunition will be containerized in a magazine or an ammunition pouch except for placing small starter belts of ammunition inside the pockets of the MAWC.
- b. The total width of a Jumper should not exceed 30 inches.
- c. Total rigged weight of a Jumper.
 - T-11 ATPS/MC-6 maximum suspended weight is 400 pounds. i.
 - Known USAF restrictions. ii.
 - TO 1C-130A-9: The maximum total rigged weight for the C-130H is 400 pounds when exiting a iii. paratroop door with an operable TPRS, 325 pounds when exiting from over the ramp, and 250 pounds when no TPRS exists.
 - Total rigged weight consists of a fully uniformed Jumper, helmet, jumpable pack, weapons case, iv. and T-11 ATPS (53 pounds)/MC-6 (43 pounds). The following charts can be used be unit leaders at the unit area to help them better understand the weight a Jumper is carrying in relation to a percentage of their bodyweight.

Table 12.1a totals the weight of a Jumper in uniform and helmet plus the percentage of body weight that individual is carrying. This includes the T-11 ATPS and combat equipment. The T-11 ATPS weighs approximately 53 lbs.

_ರ 270 lbs	378 lbs	405 lbs	432 lbs	459 lbs	486 lbs	513 lbs	540 lbs	567 lbs
<u>لا 1</u> 250 lbs	350 lbs	375 lbs	400 lbs	425 lbs	450 lbs	475 lbs	500 lbs	525 lbs
بر 230 lbs	322 lbs	345 lbs	368 lbs	391 lbs	414 lbs	437 lbs	460 lbs	483 lbs
^ਲ E 210 lbs	294 lbs	315 lbs	336 lbs	357 lbs	378 lbs	399 lbs	420 lbs	441 lbs
.0190 lbs	266 lbs	285 lbs	304 lbs	323 lbs	342 lbs	361 lbs	380 lbs	399 lbs
170 lbs	238 lbs	255 lbs	272 lbs	289 lbs	306 lbs	323 lbs	340 lbs	357 lbs
.150 lbs	210 lbs	225 lbs	240 lbs	255 lbs	270 lbs	285 lbs	300 lbs	315 lbs
^{រដ្} លាំ130 lbs	182 lbs	195 lbs	208 lbs	221 lbs	234 lbs	247 lbs	260 lbs	273 lbs
a 110 lbs	154 lbs	165 lbs	176 lbs	187 lbs	198 lbs	209 lbs	220 lbs	231 lbs
per's	40%	50%	60%	70%	80%	90%	100%	110%
Jumper	's weight p	lus the perc	entage of bo	dy weight c	arried = Tota	al Rigged We	eight (TRW)	Example: 15

Jumper's weight plus the percentage of body weight carried = Total Rigged Weight (TRW) Example: 150 lbs + 100% = 300 lbs TRW

Table 12.1a - Total Rigged Weight

let	Table 12	.1b - identi	fies how m	uch of their	total rigge	d weight, ic	lentified in o	chart 1, is co	ombat equipment.
elm	270 lbs	55 lbs	82 lbs	109 lbs	136 lbs	163 lbs	190 lbs	217 lbs	244 lbs
d bu	250 lbs	47 lbs	72 lbs	97 lbs	122 lbs	147 lbs	172 lbs	197 lbs	222 lbs
ma	230 lbs	39 lbs	62 lbs	85 lbs	108 lbs	131 lbs	154 lbs	177 lbs	200 lbs
ifor	210 lbs	31 lbs	52 lbs	73 lbs	94 lbs	115 lbs	136 lbs	157 lbs	178 lbs
un u	190 lbs	23 lbs	42 lbs	61 lbs	80 lbs	99 lbs	118 lbs	137 lbs	156 lbs
wit	170 lbs	15 lbs	32 lbs	49 lbs	66 lbs	83 lbs	100 lbs	117 lbs	134 lbs
ight	150 lbs	7 lbs	22 lbs	37 lbs	52 lbs	67 lbs	82 lbs	97 lbs	112 lbs
wei	130 lbs	-1 lbs	12 lbs	25 lbs	38 lbs	51 lbs	64 lbs	77 lbs	90 lbs
oer's	110 lbs	-9 lbs	2 lbs	13 lbs	24 lbs	35 lbs	46 lbs	57 lbs	68 lbs
Jum		40%	50%	60%	70%	80%	90%	100%	110%

Red denotes Jumpers who will exceed the maximum allowed weight for the T-11 ATPS Weight of only the combat equipment

Table 12.1b - Weight of Combat Equipment

v. Airborne Commanders, unit leaders, and JMs all share the responsibility to ensure their Jumpers can safely and effectively exit from an aircraft with the equipment they are being asked to deliver. In respect to a Jumper's ability to properly exit an aircraft the PJ has the following authorities:

- 1. Cross load equipment whenever it is deemed necessary to lighten a Jumper's total rigged weight.
- 2. Scratch a Jumper that fails to adequately manage the weight they are carrying during any portion of the airborne timeline.
- 11. Authorized Expendables for Rigging CE.
 - a. Masking tape (paper tape) is the only tape authorized for use in rigging of items of CE.
 - b. Bubble wrap or cellulose wadding
 - c. Paperboard honeycomb (PBHC) should be used to fill the void in the adjustable nose cone of the MAWC.
 - d. Type 1 2-inch heavy duty and medium duty (short and fat), and type-64 (long and skinny), are the preferred retainer bands for rigging equipment.
- 12. Quick Releases.
 - a. There are two types of quick releases:
 - i. A quick release is when the folded portion is no less than two fingers and no more than three fingers in length. The excess webbing will be S-folded and secured with masking tape or retainer bands. Ensure the quick release and the S-folds are not secured together.
 - ii. A quick release fold is when the folded portion and the excess webbing are the same length. When securing the quick release fold, masking tape or retainer bands will be used. The excess webbing and the folded portion will be secured back to the main securing strap.
- 13. All equipment will be secured to the Jumper's leg utilizing the adjustable leg strap(s) upon completion of the JMPI. The only authorized deviation is when conducting in-flight rigging.

12.2 APPROVED HELMETS, COMPONENT PARTS, AND ACCESSORIES

- 1. For the most current AUL reference the AUL on the USAAAS DEPS page (CAC required).
- 2. List of Approved Helmets:
 - a. ACH.
 - b. Enhanced Combat Helmet (ECH).
 - c. Ops Core FAST HC ballistic helmet.
 - d. Crye AirFrame.
 - e. Ops Core FAST Carbon helmet.
 - f. Ops Core FAST Bump helmet.
 - g. Pro-Tech with para rescue liner kit.
 - h. IHPS
- 3. Suspension Pads and Chinstrap Assemblies for the ACH and ECH. Suspension pads utilized for airborne operations will be purchased through official U.S. Army supply systems and have the traceability information printed on the back of the suspension pad. This traceability information will include the NSN, size of the suspension pad, LOT number, etc. There are currently three authorized manufacturers that the Defense Logistics Agency purchases from. They are Gentex, National Institute for the Blind (NIB), and Revision.
- 4. Chinstrap Assemblies. Ensure your chinstrap is approved for the type of helmet you are utilizing. When replacing an existing chinstrap, you MUST replace all the component parts with those provided with your new chinstrap. Do not mix components of various chinstrap assemblies.
 - a. Gentex
 - b. Mine Safety Appliances (MSA)
 - c. BAE SDS
 - d. Rabinex
 - e. Headloc H-Nape Improved
 - f. Headloc H-Nape Gen 1
 - g. Gentex Universal H-Nape and X
 - h. Headloc OCC Dial with Impact Pads
 - i. Headloc X-Nape
 - j. Headloc Worm Dial







В







В









Н



G

Table 12.2a – Approved Retention Systems

- 5. NVG/Enhanced Night Vision Google (ENVG) Bracket, Shroud, and Wiring Harness.
 - a. All mounting hardware utilized to secure a bracket, shroud or wiring harness to any approved helmet must be flush mounted on the inside of the helmet shell.
 - b. Authorized NVG brackets and shrouds for the ACH, ECH, and Fast HC helmets.
 - i. The universal shroud is manufactured by Norotos and is a One-Hole Shroud. It comes as a universal shroud ballistic (left) and universal shroud-light (right). It comes is the colors Tan, Black, and Brown (taping not required).



Figure 12.2a – Universal Shroud By Norotos

ii. Another version of the universal shroud is manufactured by Wilcox and is also a One-Hole Shroud. It comes as the universal shroud light and comes in Black and Tan and comes with an option for a lanyard (taping not required).





iii. Standard issue PVS-14 ACH Bracket (Taping required).





Tan

NIGHT VISION DEVICE BRACKE

OCKING



Figure 18. Old ACH NVD Bracket Assembly.

Authorized

Authorized

Figure 20. New ACH NVD Bracket Assembly with

Not Authorized

Figure 19. New ACH NVD Bracket Assembly with

Flathead Screw and Self-Locking Nut.

SCREW

Figure 12.2c – ACH Bracket

Slotted Flathead Screw and Locking Nut.

iv. PSQ20-A is manufactured by Norotos and is a One-Hole Shroud with wiring harness.



Figure 12.2d – AN/PSQ-20 Wiring Harness

v. AN/PSQ-20 wiring harness (see Figure 12.2e). The basic issue wiring harness for the AN/PSQ-20 B can be utilized without using the mounting hardware. The following procedures are a step-by-step method to properly secure the wiring harness without the use of the mounting hardware. This solution will provide the force an option for delivery and proper use of the new ENVG.

c. Taping NVG/ENVG brackets, shrouds, and wiring harness. All brackets or similarly designed head harnesses will be taped prior to an airborne operation; however, a majority of approved shrouds do not require taping unless they become jagged from wear or possess sharp edges.



Figure 12.2e – AN/PSQ-20 Bracket and Wiring Harnes

- d. Wiring harness installation.
 - a. Remove the helmet cover (if present), all seven suspension pads, and the front left adjustable buckle.
 - b. Separate the wiring harness at the ratchet assembly.
 - c. Secure the rear wired bracket assembly to the center rear of the advanced combat helmet. Route the ratchet strap through the cut-away portion on the rear of the helmet cover and then re-secure the helmet cover to the helmet shell.
 - d. Secure the front wired bracket to the center front of the ACH, over the helmet cover, aligning the holes for the mounting screw. Secure the ratchet strap and tighten it down.
 - e. Routing the wire. The wire will be routed to the left as worn. There is a wire coupling that connects the rear and front bracket wires. This wire coupling cannot be inside the helmet shell, it is too large and has been deemed a safety risk.
 - f. Cutting the helmet cover. Make a one inch cut in the helmet cover just to the left of the front wired bracket. This will allow the wire to run along the rim of the helmet shell.
 - g. Taping the wire in place. Secure the wire to the rim of the helmet shell with 100 mph tape in two places (see Figure 12.2f). This procedure in addition to the helmet cover will keep the wire coupling in place on the rim of the helmet shell.



Figure 12.2f – Taping Wire and Coupling

- h. Route the wire underneath the crown pad.
- i. Secure the camouflage retainer band underneath the rear wired bracket and over the top of the front wired bracket. You will need to separate the ratchet strap.
- j. Secure the chinstrap assembly. Be sure you route the front left adjustable strap behind the portion of the wire secured to the helmet shell.
- k. Install the remainder of the suspension pads as you normally would.
 - e. Taping the wiring harness for an airborne operation. The wiring harness will be taped in three places; the front wired bracket, the ratchet assembly, and the exposed portion of the rear wired bracket (see Figure 12.2g).



Figure 12.2g – Taping Wiring Harness

- 6. Ops-Core FAST Ballistic High Cut Helmets (FAST HC) and Bump Helmets.
 - a. This series of helmets were tested and approved for SL and MFF airborne operations using only the manufacturer's components, i.e., OCC-Dial with impact pad system (EPP System) or the worm dial with the LUX liner system and in a particular configuration (see Figures 12-2d, 12-2e, 12-2f, and 12-2g). The approved configurations are available in Chapter 12 of the TC 3-21.220 or on the USAAAS AUL. There are no authorized deviations from those standards.





Figure 12.2h – FAST HC LUX Liner Worm Dial

Figure 12.2i – FAST HC OCC Dial

b. NVG shrouds. It is highly recommended that this helmet is ordered with the one-hole option for NVG/ENVG shrouds and wiring harnesses. The standard shroud that comes on the helmet will be the VAS Shroud. This is not a wiring harness, nor does it have a one-hole option, it is a three-hole shroud and you are not authorized to drill into any ballistic helmet. Units are responsible for ensuring the appropriate shroud or wiring harness is properly installed for the type of Enhanced Night Vision Device (ENVG) they are fielded. Helmets manufactured with a one-hole option for NVG/ENVG's offer the unit the most flexibility in utilizing the variety of available NVG/ENVG's. Reference the unit AUL to identify what shrouds and brackets are authorized for use with the FAST HC helmet.

- c. Proper fitting and wear of the FAST HC helmet. The steps must be done in order to achieve the best fit.
 - i. Step 1: Loosen the OCC-Dial or Worm Dial chinstrap so the suspension pad system rests against the Jumper's head.
 - ii. Step 2: Ensure the front outer rim of the helmet shell rests a ½ inch to 1 inch from the Jumper's eyebrow line
 - iii. Step 3: Tighten the front adjustable straps to a comfortable fit.
 - iv. Step 4: Tighten the fit band of the OCC-Dial or Worm Dial chinstrap to a comfortable fit.
 - v. Step 5: Tighten the rear adjustable straps to a comfortable fit.
- d. 3M adapters with Peltor headsets and the Ops Core Rail Attached Communications (RAC) system.
 - i. The FAST HC helmet with the Accessory Rail Connector (ARC) rail system can be outfitted with the 3M adapters and ComTac II or III Peltor headsets. This combination in conjunction with the proper wear of the tactical assault panel (TAP) or like item will allow the Jumper to quickly get communications up when they reach the DZ. Reference paragraph 12-8c for the proper wear of the TAP with a radio and paragraph 12-15 for restrictions on jumping radios exposed.
 - ii. Installation of Peltor headset. (Not authorized with IHIPS)
 - a. Secure the 3M adapters to the Peltor headset.
 - b. Route one of the earpieces underneath the fitband on one side of the helmet and again on the opposite side. This will ensure the cable connecting the two earpieces is inside the helmet and does not become a snag hazard.
 - c. Secure both 3M adapters to the ARC rail system to the position that best fits the Jumper.
 - d. Secure a retainer band to the ARC rail on the side or sides that have push-to-talk (PTT) adapter cable (see Figure 12-2h). The recommended retainer band is the two-inch heavy duty retainer band.
 - e. S-fold the PTT adapter cable and stow it in the retainer band as seen in Figure 12.2j. Take note that the cable is folded so the entire cable can be pulled out of the retainer band.



Figure 12.2j – Securing PTT Cable

- iii. Installation of RAC headset. (Not authorized with IHPS)
 - a. Secure RAC headset to each side of the ARC rail. Ensure the cable connecting the two earpieces is affixed to the rear hook pile tape provided on the helmet.

- b. Secure a retainer band to the side of the connecting cable that has the PTT adapter cable. The recommended retainer band is the type-1 retainer band.
- c. S-fold the PTT cable and secure in the retainer band as seen in Figure 12.2j.
- e. Jump Configuration.
 - i. Ensure the PTT radio adapter cable is properly secured.
 - ii. At the 20-minute time warning the Peltor/RAC headset must be turned on (Jumpers will ensure the batteries have sufficient life prior to the airborne operation) and in the down position resting tightly against the Jumper's ears. The 3M adapters/RAC adapters have two positions, and this will require the Jumper to place the 3M/RAC adapters in position by pressing into the 3m/RAC adapters until they click into position.
 - iii. The microphone should be stowed against the earpiece or positioned in front of the Jumper.
- 7. Infrared Strobes.
 - a. Securing to the helmet shell.
 - i. Tape down all four sides of the IR Strobe, above and below the switch. Ensure the switch and the IR filter is exposed.
 - b. Securing to a helmet cover.
 - i. Utilize hook and pile tape to secure it directly to the helmet cover. Place an additional piece of hook and pile tape over the top of the IR strobe (covering the switch but better securing the IR Strobe.
 - ii. Secure a small lanyard to the IR Strobe and the helmet cover.
- 8. Integrated Head Protection System (IHPS)

ACH and IHPS suspension pads are NOT interchangeable.

- a. The IHPS was tested and approved for SL and MFF airborne operation using only the manufacturer's base configuration components (i.e., the chinstrap retention system and the suspension pad). NVG mounts must conform to the helmet shell and be taped. There are no other authorized deviations from the manufacturer's base configuration components. Peltors are not authorized to be jumped with IHPS.
- b. Proper placement of the suspension pad system. The Integrated Head Protection System (IHPS) must have its approved suspension pad system for use. The authorized suspension pad system is constructed of an 8-pad system. This consists of 3 trapezoid pads (1 black (front) 2 gray (rear), 4 oval pads (2 labeled side goes horizontally on the side, 2 vertically on the front covering where the chinstrap is attached), and 1 crown pad and must be placed correctly.



Figure 12.2k – IHPS Suspension Pads



Figure 12.2I – IHPS Configuration

c. Rail Assembly – When the side rail assembly is present on the helmet, it does not need to be taped. However, the picatinny adaptors must be removed from the rail assembly prior to any airborne operations. If the rails are removed, the short screw must be reinserted and taped to prevent damage to the threads or loss, and you must also tape the outer rim of the helmet shell where the rail assembly used to sit.



Figure 12.2m – NVG Mount taped



Figure 12.2n- Taping When Rail Assembly Is Removed

The Norotos universal shroud does not conform to the shape of the IHPS and cannot be attached during airborne operations.

12.3 NIGHT VISION GOGGLES

- 1. It is recommended that NVGs be padded and taped to provide additional protection and survivability.
- 2. NVGs will only be delivered in the following manners:
 - a. Stand alone. Inside the main compartment of the jumpable pack or MAWC while padded and taped with one turn of bubble wrap and secured with masking tape. They will then be tied down to the jumpable pack or the PALS-W inside the MAWC.
 - b. Secured inside their container on the Load Bearing Vests (LBV) and secured inside the main compartment of the jumpable pack or inside the MAWC. They will be tied down to the LBV.
 - c. Secured and tied down in their container on the LBV or TAP when worn by the Jumper.
 - d. The NVG's and ENVG's may be worn during airborne operations utilizing the "neck rider" method.
 - i. If jumped using the "neck rider" method, the NVGs will be positioned on the Jumper's chest so the Jumper will still be able to assume the proper "chin on chest" position for exiting the aircraft and performing PLFs.
 - ii. The neck cord must be made with a single loop of 1/4" cotton webbing.
 - iii. The entire NVGs, to include the 1/4" cotton webbing neck cord, must be concealed under the uniform jacket and be adequately padded.

12.4 HARNESS SINGLE POINT RELEASE

1. When using the HSPR and the MAWC a duty retainer band will be girth hitched to the MAWC on the nylon equipment hanger just above the bottom compression strap (see Figure 12-4a).



Figure 12.4a – Retainer Band on a MAWC for the HSPR

- 2. The left male portion leg strap release assembly will be routed through this retainer band when placing the Jumper into Jumper configuration. This will mitigate the tripping or snag hazard that exists with the adjustable leg strap.
- 3. When utilizing an Integrated-HSPR the retainer band is recommended but not required. The leg straps on a MOLLE 4k/ISPR attach at a higher point on the pack so the risk of the leg strap slipping off the Jumpers leg and becoming a snag hazard is lower.
- 4. Assembling the HSPR.
 - a. Layout the HSPR as shown in figure 12.4b. Route the release handle through the release handle cross strap ensuring there are no twists in the release handle lanyard. Secure the hook tape on the release handle cross strap to the pile tape on the release handle.



12.4b – Assembling the Release Handle

b. Route the white attaching loop through the triangle link ensuring the adjustable d-ring attaching strap is flat and the opening gate to the snap hook is facing down. Then route the green attaching loop through the white attaching loop, ensure the attaching loops are not twisted (see Figure 12-4c).



Figure 12.4c – White and Green Attaching Loops

c. Route the red attaching loop through the green attaching loop, then through the grommet on the female portion leg strap release assembly (see Figure 12.4d).



Figure 12.4d – Red Attaching Loop

d. Route the release handle cable through the red attaching loop and into the cable loop retainer (see Figure 12.4e).



Figure 12.4e – Release Handle Cable and Cable Loop Retainer

e. Repeat the process for the opposite side.

12.5 HOOK PILE TAPE LOWERING LINES (HPTLL)

- 1. General Information.
 - a. Instructions for folding a HPT lowering line (HPTLL) are available in section 12-43 of TC 3-21.220.
 - b. The HPT lowering line, the Improved-HPT lowering line (I-HPT lowering line) and the Modified HPT lowering line (M-HPT lowering line) and the Snap Shackle Lowering Line are the only authorized lowering devices for use.
 - c. The HPT lowering line is used to lower the SMJP or any individual equipment container, either singularly or in tandem.
 - d. It is considered a hazard if the hook pile tab modifications on the retainer flap are not properly securing the S-folds inside the retainer flap. Premature elongation of the HPT lowering line has been attributed to serious injury, towed parachutists, and severe damage to the main parachute in the past.
- 2. I- HPT lowering line.

If the HPTLL elongates prior to exiting the aircraft, do NOT place the excess in the Jumpers cargo pocket. If time permits, you can replace it or reassemble it and conduct an inspection. If time does not permit you can scratch the Jumper from that pass or remove the CE.

a. The I- HPT lowering line is an authorized modification to the HPT lowering line where the hook tab closest to the ejector snap has been removed and a new four-inch piece of hook tape was placed an additional four inches away from its original position for a total of 18 inches (see Figure 12-5a). This modification will mitigate premature elongations that have previously occurred with the HPT lowering line.



Figure 12.5a – HPT lowering line and I- HPT lowering line.

- 3. M- HPT Lowering Line.
 - a. The M- HPT lowering line will be used to lower the DMJP and the AT-4JP when they are lowered as a tandem load, i.e., DMJP and the ALICE pack or the AT-4JP and the ALICE pack. The hook tab closest to the ejector snap has been moved an additional 24 inches away from the ejector snap for a total of 36 inches.
- 4. Taping the HPT Lowering Line, I- HPT Lowering Line, and the M- HPT Lowering Line.
 - a. Units are authorized to secure the yellow safety lanyard to the hook pile tape lowering line utilizing masking tape. Units may choose to do this IOT prevent Jumpers accidently jettisoning their CE.
 - b. It is sufficient to use one turn of one-inch-wide masking tape. Place the paper tape at the end of the double sewn portion of the one-inch-wide tubular nylon webbing as seen in Figure 12-5b. This will place the paper tape approximately halfway down the yellow safety lanyard giving the Jumper a sufficient length to grasp if needed.



Figure 12.5b – Taping Yellow Safety Lanyard

12.6 JUMPABLE PACKS

- 1. General Information.
 - a. All authorized jumpable packs will be listed on the USAAAS AUL.
 - b. Rigging procedures are also available in Chapter 12 of TC 3-21.220.
 - c. E-tools secured inside an E-tool carrier or external pouch must always be tied down to the pack body using 550 cord.



Figure 12.6a – Proper Tie Down for E-tool

- 2. Attaching the Jumpable Pack to the Parachute Harness:
 - a. T-11/MC-6 ATPS:
 - i. Secure the attaching straps of the jumpable pack to the equipment rings ensuring the opening gates of the snap hooks are facing toward the Jumper, there are no twists in the attaching straps, and no part of the attaching straps are misrouted through any portion of the pack frame.
 - ii. Prior to JMPI tighten down the attaching straps. The base of the pack frame or pack body should be snug against the bottom of the reserve parachute. Do not tighten the attaching straps so much that the reserve parachute is tilted upward. This will mitigate premature elongation of the HPT lowering line.
 - iii. If the jumpable pack is rigged to be jumped and lowered as a single item of equipment, attach the ejector snap of the HPT lowering line to the triangle link with the opening gate facing towards the Jumper.
 - iv. If the jumpable pack is rigged to be jumped and lowered as a tandem load, route the ejector snap of the HPT lowering line between the attachment strap and the main body of the MAWC, from front to rear, as worn by the Jumper. Attach the ejector snap to the triangle link with the opening gate facing towards the Jumper.
- 3. Routing the Adjustable Leg Straps.
 - a. After JMPI is conducted the JM will route the adjustable leg straps. There are two approved methods.
 - b. One leg free:
 - i. Left paratroop door. The JM will route the right male portion leg strap release assembly between the Jumper's legs, around the right leg and then secure the male portion to the female portion leg strap release assembly. Allow enough slack in the adjustable leg strap to aid in the Jumper's ability to walk and S-fold or roll the excess and stow it in its webbing retainer. Route the left male portion leg strap release assembly between the weapons case and the Jumper's leg then around the weapons case and secure the male portion to the female portion leg strap release assembly, remove all slack and then roll or S-fold the excess and stow it in its webbing retainer. Remember to utilize a retainer band when jumping the HSPR and MAWC as a tandem load (see Figure 12.6a).
 - ii. Right paratroop door. The JM will route the left male portion leg strap release assembly through the Jumper's legs, around the Jumper's left leg and the weapons case. Secure the male portion to the female portion leg strap release assembly. Allow enough slack in the adjustable leg strap to aid in the Jumper's ability to walk. Then S-fold or roll the excess and stow it in its webbing retainer. When utilizing an integrated harness single point release (I-HSPR) ensure you route the right male portion leg strap release assembly along the side of the pack body, secure the male portion to the female portion

leg strap release assembly, remove all slack then S-fold or roll the excess and stow it in its webbing retainer.

- c. No legs free:
 - i. Regardless of what paratroop door is being exited you will route both adjustable leg strap release assemblies around both legs. The left will always go through the legs, around the left leg and the MAWC. If you are using the HSPR ensure the retainer band is present and the adjustable leg strap is routed through it.
- d. Prior to exiting the aircraft.
 - i. After the command of "OUTBOARD OR INBOARD PERSONNEL STAND UP" the Jumper will remove all slack from the adjustable leg straps, S-fold or roll the excess and stow it back in its webbing retainer.
- 4. MOLLE 4000.
 - a. General Information.
 - i. This section refers to the second iteration of the MOLLE 4K that was fielded in 2018. The MOLLE 4K is meant to serve as the Army's primary issued airborne pack moving forward. It has over 4000 cubic inches of internal storage space, an internal radio pouch, three outer accessory pouches, an external molded frame, and an integrated harness single point release (I-HSPR). The combined weight of the pack and air items is 11.25 pounds.
 - b. Rigging procedures for the MOLLE 4K with the I-HSPR.
 - i. Ensure that the MOLLE 4K is properly placed into ground configuration IAW Appendix M.
 - ii. Unzip the air item stowage pocket at the bottom of the pack and remove the adjustable equipment ring attaching straps and female portion leg strap release assemblies. Ensure that the I-HSPR is properly routed inside the air item stowage pocket (see Figure 12.6b).



Figure 12.6b – I-HSPR Properly Routed through Air Item Stowage Pocket

iii. Roll and secure the closing flap of the air item stowage pocket between the pack frame and the pack body.

- iv. Route the release handle and release handle cables through the two plies of the release handle cross strap, ensuring that there are no twists in the release handle lanyard and secure the hook and pile tape.
- v. Route the white attaching loop from bottom to top through the yellow attaching loop of either adjustable equipment ring attaching strap, ensuring that there are no twists in the nylon portion and the opening gate of the snap hook is facing down. Next, route the green attaching loop from bottom to top through the white attaching loop. Then route the red attaching loop from bottom to top through the green attaching loop. Route the red attaching loop through the grommet on the female portion leg strap release assembly and route the release handle cable through the red attaching loop then into the cable loop retainer. Repeat this process for the opposite side (see Figure 12.6c).



Figure 12.6c – I-HSPR Properly Assembled in Air Item Stowage Pocket

- vi. Remove the friction adapters and friction adapter protective covers from the friction adapter stowage pockets on the top flap of the pack.
- vii. Route the equipment retainer straps through at least one of the double-wide nylon equipment channels located on the pack as you route it to its corresponding friction adapter. Ensure there are no twists and incorporate a two-to-three finger quick release. S-fold the free running ends and secure them with masking tape or a retainer band. Ensure the quick release does not protrude outside the friction adapter protective covers. A two-inch length of free running end can protrude from the friction adapter protective cover to hasten the process of recovery once on the ground. Repeat the same process for the opposite equipment retainer strap (see Figure 12.6d).



Figure 12.6d – Securing the Free Running Ends

- viii. Secure the hook and pile tape of both friction adapter protective covers.
- ix. Remove all slack from both adjustable shoulder carrying straps, S-fold the free running ends and secure them with their webbing retainer, retainer band, or masking tape.
- x. Route the looped end HPT lowering line from north to south or south to north under the "X" configuration of the equipment retainer straps on the back of the pack. Route the entire HPT lowering line through the looped end HPT lowering line forming a girth hitch. Tighten the girth hitch against the "X" configuration.
- xi. Girth hitch two 2-inch Heavy Duty retainer bands low on the two nylon equipment hangers on the left side of the pack body as worn. Place the bands as close to the rear of the pack body as possible. Ensure the retainer bands will be evenly spaced on the retainer flap of the HPT lowering line.
- xii. Route the HPT lowering line over the left adjustable shoulder carrying strap, then route it from bottom to top through each retainer band (see Figure 12.6e).



Figure 12-6e – Securing the HPT Lowering Line

- xiii. Remove both male portion leg strap release assemblies from their adjustable leg strap stowage pockets. Route each along the side the pack body and secure them to their female portion leg strap release assemblies. Remove all excess, then S-fold or roll the excess and secure it inside their webbing retainers on the female portion leg strap release assemblies.
- xiv. The MOLLE 4K is now in jump configuration.

The friction adapter protective covers must be opened prior to JMPI and closed after. Ensure the adjustable leg straps are secured to the female portion leg strap release assembly or it will be lost. A retainer band is recommended but not needed to secure the adjustable leg strap to the MAWC.

- c. Rigging procedures for the MOLLE 4K with a standard HSPR.
 - i. When rigging the MOLLE 4K with a standard HSPR, the procedures are very similar to the large MOLLE. Since the top portion of the MOLLE 4K frame does not have cutaways, the equipment retainer straps must be routed through one of the double-wide nylon equipment channels on the pack closing flap.
- 5. MOLLE Large.
 - a. General Information.
 - i. The MOLLE Large (Generation III) has a ruggedized frame, and the main compartment is permanently attached to the lower sleeping bag compartment.
 - ii. Prior to rigging the MOLLE Large all excess webbing will be secured with either masking tape or retainer bands.
 - iii. The MOLLE Large may be jumped with its side outer side accessory pouches so long as the total width of the Jumper to include all combat equipment does not exceed 30" in width.
 - iv. A center outer accessory pouch or E-tool carrier must be used on the front center to fix the HSPR in place. See figure 12.6a for proper tie down procedures.
 - v. The MOLLE Large can sustain loads ranging from a minimum of 35 pounds to a maximum of 110 pounds.
 - vi. The MOLLE Large should maintain a square configuration as much as possible to ensure that the HSPR will remain tightly secured to it.
 - b. Rigging Procedures for the MOLLE Large.
 - i. The HSPR will be configured in its normal manner and the MOLLE Large will be positioned on top.
 - ii. The Jumper will place an accessory pouch or E-tool carrier in the front center of the MOLLE Large prior to routing the HSPR but do not secure it completely as it may be repositioned. The equipment retainer straps will be routed through the uppermost large cutaway portion in the top of the frame.
 - iii. Route the equipment retainer straps from outside to inside under the adjustable shoulder carrying straps and then towards the center, crossing them in an "X" configuration (see figure 12.6f).



Figure 12.6f – Back of MOLLE Large iv. Route the friction adapters through the oval slots at the base of the MOLLE Large frame.

v. Continue rigging the harness single point release to the MOLLE Large as previously described.

- vi. Reduce and stow the excess webbing of the adjustable shoulder carrying straps.
- vii. Secure the HPT lowering line in its normal configuration to the "X" configuration by routing the looped end HPT lowering line from top to bottom or bottom to top under the "X" configuration and then route the entire HPT lowering line through the looped end HPT lowering line, forming a girth hitch. Route the HPTLL over the left shoulder carrying strap and use retainer bands girth hitched to the frame to secure it.
- viii. Finally, secure the E-Tool carrier or outer accessory pouch to the MOLLE Large exterior in the space between the release handle cross strap and the adjustable cross strap. This will ensure that the harness single point release does not slide off of either side of the MOLLE Large. This pouch must be filled with non-fragile items (see Figure 12.6g).



Figure 12.6g – Attachment of Outer Accessory Pouch

- c. Attaching the MOLLE Large to the parachute harness
 - i. Attach the snap hooks of the adjustable D-ring attaching straps to the equipment rings on the T-11 parachute harness.
 - ii. Adjust the length of the adjustable D-ring attaching straps by pulling on the free running ends. The base of the MOLLE Large frame should be snug against the bottom of the reserve parachute. Do not tighten the adjustable D-ring attaching straps so much that the reserve parachute is tilted upward.
- iii. If the MOLLE Large is rigged to be jumped and lowered as a single item of equipment, attach the ejector snap of the HPT lowering line to the triangle link with the opening gate facing towards the Jumper.
- iv. If the MOLLE Large is rigged to be jumped and lowered as a tandem load, route the ejector snap of the HPT lowering line is routed between the main body of the MAWC and the attachment strap of the MAWC, from front to rear, as worn by the Jumper. Attach the ejector snap to the triangle link with the opening gate facing towards the Jumper.
- 6. Medium MOLLE.
 - a. General Information.
 - i. The M-MOLLE is authorized to be jumped using a HSPR and a HPT lowering line.
 - ii. Rigging procedures deviate only slightly from the procedures currently used for the MOLLE and HSPR. Anything not mentioned should be rigged IAW established procedures for MOLLE.

- iii. There is no requirement to add an outer accessory pouch/ E-tool carrier or any other similar item to the M-MOLLE.
- b. Rigging procedures.



Figure 12.6h – Routing of Equipment Retainer Straps using M-MOLLE

ii. Friction adapters will be routed around the pack body and under the M-MOLLE frame (see Figure 12.6i). Do **NOT** route through the frame.



Figure 12.6i – Routing of Friction Adapters using M-MOLLE

- 7. MOLLE Assault Pack (MAP).
 - a. General Information.
 - i. The MAP is authorized to be jumped using a HSPR or the 18-inch attaching straps located inside the MAP and HPT lowering line.
 - ii. When rigging the MAP using the 18-inch attaching straps, it is highly recommended that heavy loads are not placed inside of the MAP as it is NOT designed to be lowered unless executing emergency landing procedures. To reduce the risk of damaging equipment, Paratroopers should only use the HSPR when jumping MAPs that exceed 35 lbs. The 18-inch integrated straps should ONLY be utilized when jumping equipment less than 35 lbs.
 - iii. The MAP cannot be jumped in conjunction with the M50 Joint Service General Purpose Mask. If the M50 JSGPM must be jumped, it should be placed inside of the MAP.
 - iv. The convenience pouch located on the front of the MAP must be filled with non-fragile items of equipment to help secure the HSPR to the pack.

i. Equipment retainer straps will be routed through the carrying handle located at the top of the M-MOLLE and then outside-to in on the adjustable shoulder carrying straps (see Figure 12.6h).

- v. Prior to rigging, all excess webbing must be secured with masking tape, retainer bands, or appropriate webbing retainers.
- b. Rigging procedures for the MAP with HSPR.
 - i. Lay out a properly assembled HSPR with the opening gates of the snap hooks facing skyward and remove all twists from the equipment retainer straps.
 - ii. Place the MAP on top of the HSPR, convenience pouch facing down with the bottom of the MAP facing towards the friction adapters.
- iii. Route the equipment retainer straps under the top carrying handle staying toward the inside of the shoulder carrying straps, and then cross them at the back of the MAP forming an "X" configuration.
- iv. Route the friction adapters under the waist strap at the bottom of the MAP. The waist strap must be secured together and tightened with all excess webbing stowed.
- v. Secure the equipment retainer straps to their appropriate friction adapters and form quick releases.
- vi. Before tightening the HSPR, adjust it so that the release handle cross strap is directly above the bottom of the convenience pouch. Doing this will make the following steps easier to accomplish.
- vii. Tighten the HSPR and form two to three finger quick releases. S-fold the excess and secure it with either masking tape or retainer bands, one of the two, never both, but there is no preferred method.
- viii. Reduce the excess of both adjustable shoulder carrying straps. S-fold the excess and secure with masking tape or retainer bands.
- ix. Then secure the HPT lowering line in its normal configuration to the "X" configuration by routing the looped end HPT lowering line from top to bottom or bottom to top under the "X" configuration and then route the entire HPT lowering line through the looped end HPT lowering line, forming a girth hitch.
- x. Route the HPT lowering line over the left adjustable shoulder carrying strap and secure it to the left side of the MAP by girth hitching two retainer bands to the nylon equipment hangers. The HPT lowering line should be routed from bottom to top as the ALICE pack is worn by the Jumper.



xi. Secure the sternum strap in front of the quick releases to hold the adjustable shoulder carrying straps in place (see Figure 12.6j).

Figure 12.6j – Sternum Strap Secured on MAP

xii. Re-adjust the HSPR, if necessary, so the release handle cross strap is directly above the bottom of the convenience pouch. Route the compression straps of the convenience pouch over the release handle cross strap, but under the release handle cable and not through the release handle lanyard (see Figure 12.6k). Then secure the buckles of the compression straps. This will ensure that the HSPR will not shift along the surface of the MAP.



Figure 12.6k – Routing of Compression Straps over Release Handle Cross Strap

xiii. Cut two pieces of 1/4" cotton webbing that are approximately 12 inches long. Girth hitch the 1/4" cotton webbing to the horizontal nylon equipment hangers on the bottom of the MAP. Use the ones that are closer to the waist strap, not the ones closer to the convenience pouch. Tie the lengths of 1/4" cotton webbing in a single or double loop bow knot around the HSPR just below the single "X" box stitch (see Figure 12.6l).



Figure 12.6I – Securing HSPR with 1/4" Cotton Webbing to MAP

- xiv. Finally, route the male portion leg strap release assemblies from the point where they are sewn to the equipment retainer straps by the most direct route along the side of the MAP and attach them to the female portion leg strap release assemblies. Remove the slack and S-fold or roll the excess webbing and secure it in the webbing retainer.
- c. Rigging procedures for MAP with issued internal components.
 - i. The MAP comes equipped with white nylon attaching straps and an attached fixed loop (all located inside the pack on the back panel) to connect the assault pack and HPTLL to the parachute harness. The adjustable D-ring attaching snap hooks from the HSPR will also be utilized.

ii. Route the white nylon attaching straps through the slots provided on the top of the pack ensuring that the straps and not twisted (Figure 12.6m)



Figure 12.6m – White Nylon Attaching Straps

iii. Route the fixed loop through right slot as worn by Jumper behind the white nylon attaching strap (figure 12.6n)



Figure 12.6n – Fixed Loop Routing

- iv. Begin rigging the assault pack by tying the two zipper tabs together with quarter inch cotton webbing.
- v. The ADRAS snap hooks from the HSPR will be used in conjunction with the white nylon attaching straps on the pack. With the opening gate on the snap hook facing the rear of the pack, route the white nylon strap from back to front over the floating metal bar. Form a two to three finger quick release and feed the quick release back through the snap hook under the floating metal bar ensuring that no twists have been created. Adjust the snap hook and quick release three to four inches from the pack. Secure the free running end with quick release folds leaving a three-four finger pigtail. (Figure 12.6o).



Figure 12.60 – ADRAS Snap Hook Routing

vi. Girth hitch the looped end of the HPTLL to the green fixed loop on the pack. Attach the lowing line to the right side of the pack as worn by the Jumper. Attach the HPTLL by retainer bands secured to the nylon webbing of the pack by folding the HPTLL onto itself and routing it from top to bottom. (Figure 12.6p).



Figure 12.6p - Attaching HPTLL

vii. Both lower leg tie down will be utilized when jumping the MAP using the internal rigging components. Using a sufficient length of quarter inch cotton webbing, long enough to extend around the Jumper's right leg. Attach the tie down to the middle of the right side of the pack with a girth hitch (Figure 12.6q). If jumped with the MAWC, the lower tie down strap on the MAWC will be routed through the left adjustable shoulder carrying strap and around the Jumpers leg. If the hook pile tape is no longer serviceable or a MAWC is not present, quarter inch cotton webbing can be used as a substitute utilizing the method describe above and routed around the MAWC.



Figure 12.6q – Right Leg Strap

- d. The MAP will be attached to the Jumper in the same manner as the ALICE pack and the MOLLE.
- 8. ALICE Pack.
 - a. General Information.
 - i. The ALICE pack is available in two sizes, medium and large. The ALICE may be rigged with or without a frame; however, it must always be rigged to be lowered.
 - ii. The large ALICE pack can sustain loads ranging from a minimum of 35 pounds to a maximum of 95 pounds. The medium ALICE pack can sustain loads ranging from 35 pounds to 70 pounds.
 - iii. The ALICE pack should maintain a square configuration as much as possible to ensure the HSPR will remain tightly secured to it.
 - iv. Any items of equipment that may fall out or come free must be tied down with 1/4" cotton webbing to the ALICE pack. All fragile or sharp items must be padded and placed inside the main compartment of the ALICE pack.
 - v. The outer accessory pouches must be filled with non-fragile items of equipment.
 - vi. The lower shoulder securing straps will be secured by routing them through the "V" notch, one complete turn, around the tubular portion of the ALICE pack frame (through the V-notch twice), to the adjusting buckle on the base of the ALICE pack.
 - vii. The ALICE frame must not be rusted, cracked, bent, broken, or distorted out of shape.
 - viii. The only authorized items of equipment that can be rigged under the closing flap of the ALICE pack or MOLLE are as follows:
 - A. A maximum of three LAWs; however, they must be secured together with masking tape.
 - B. The M240B machine gun tripod (M192 LWGM) separate from spare barrel bag.
 - C. The M240B machine gun spare barrel bag without tripod.
 - D. The bed roll or half-SKEDCO.
 - E. Two M3 MAAWS (Carl Gustaf) rounds in the short twin tubes.
 - F. Aiming stakes with case for the 60mm Mortar Weapon System.
 - b. Rigging procedures for the ALICE Pack with a frame.
 - i. Lay out a properly assembled HSPR with the opening gates of the snap hooks facing skyward and remove all twists from the equipment retainer straps. Place the ALICE pack on the HSPR with the

center outer accessory pouch centered between the release handle cross strap and the adjustable cross strap. Ensure the bottom of the ALICE pack faces towards the adjustable D-ring attaching straps.

ii. Route the equipment retainer straps over the closing flap, under the tubular portion of the ALICE pack frame and the envelope cushion portion of the ALICE pack, and over the horizontal and vertical frame supports of the ALICE pack frame. On the medium ALICE pack, ensure the equipment retainer straps are routed under the tubular portion of the ALICE pack frame and the envelope cushion portion of the ALICE pack (see figure 12.6r).



Figure 12.6r – HSPR under Envelope Cushion Portion

- iii. Cross the equipment retainer straps, forming an "X" on the back of the ALICE pack.
- iv. Then secure the equipment retainer straps to their appropriate friction adapters ensuring that you do not incorporate any twists. Do this by routing it under the floating metal bar, back over the floating metal bar, and then back onto itself forming a quick release.
- v. Adjust the HSPR prior to tightening. Ensure the white attaching loops are centered on the bottom portion of the ALICE pack and the center outer accessory pouch is between the release handle cross strap and the adjustable cross strap. Tighten the equipment retainer straps by pulling the quick releases in a seesaw motion.
- vi. Adjust the quick releases so they are two to three fingers in length.
- vii. S-fold and secure the free running ends of the equipment retainer straps with either masking tape or retainer bands. Ensure the quick release is not secured in the S-folded portion.
- viii. All slack in the adjustable shoulder carrying straps will be removed and the excess webbing will then be S-folded and S-folded only and secured with masking tape or retainer bands, one of the two, never both, and there is no preferred method.
- ix. Then secure the HPT lowering line in its normal configuration to the "X" configuration by routing the looped end HPT lowering line from top to bottom or bottom to top under the "X" configuration and then route the entire HPT lowering line through the looped end HPT lowering line, forming a girth hitch.
- x. Route the HPT lowering line over the left adjustable shoulder carrying strap and secure it to the tubular portion of the ALICE pack frame utilizing two retainer bands. One must be above the horizontal frame support and one below it, with the retainer flap centered between the two retainer bands. The HPT lowering line should be routed from bottom to top as the ALICE pack is worn by the Jumper (see figure 12.6s and 12.6t).



Figure 12.6s – Placement of Retainer Bands



Figure 12.6t – Routed over Adjustable Shoulder Carrying Strap

xi. Route the male portion, leg strap release assembly from the point where it is sewn to the equipment retainer straps, by the most direct route, down the side of the ALICE pack. Secure it to the female portion, leg strap release assembly. Tighten the adjustable leg strap, then S-fold or roll the excess webbing and secure it in the webbing retainer (see Figures 12.6u).



Figure 12.6u – ALICE Pack with HSPR

- c. Rigging procedures for the ALICE pack without a frame.
 - i. Lay out a properly assembled HSPR and place the ALICE pack on top of it with the center outer accessory pouch resting between the release handle cross strap and the adjustable cross strap. The bottom of the ALICE pack should be facing towards the friction adapters.
 - ii. Route the equipment retainer straps under the envelope cushion portion and then cross them in an "X" configuration.
 - iii. Continue to route the equipment retainer straps around the remainder of the load. Then secure them in the friction adapters and rig the ALICE pack as previously described. Ensure that a quick release is placed in the equipment retainer straps.
 - iv. To attach the HPT lowering line, route the looped end, HPT lowering line from bottom to top or top to bottom, under the "X" configuration formed by the equipment retainer straps. Route the entire HPT lowering line through the looped end, HPT lowering line forming a tight girth hitch.
 - v. Girth hitch two retainer bands to the left side of the ALICE pack. One will be attached to the horizontal equipment hanger and one to the vertical equipment hanger, with the retainer flap centered between the two retainer bands. The HPT lowering line will be routed from bottom to top as the ALICE pack is worn by the Jumper.
 - vi. Route the male portion, leg strap release assembly from the point where it is sewn to the equipment retainer straps, by the most direct route, down the side of the ALICE pack. Secure it to the female portion, leg strap release assembly. Tighten the adjustable leg strap, then S-fold or roll the excess webbing and secure it in the webbing retainer.
- d. Attaching the ALICE pack to the parachute harness.
 - i. Attach the snap hooks of the adjustable D-ring attaching straps to the equipment rings on the T-11 parachute harness.
 - ii. Adjust the length of the adjustable D-ring attaching straps by pulling on the free running ends. The base of the ALICE pack frame should be snug against the bottom of the reserve parachute. Do not tighten the adjustable D-ring attaching straps so much that the reserve parachute is tilted upward.
- iii. If the ALICE pack is rigged to be jumped and lowered as a single item of equipment, attach the ejector snap of the HPT lowering line to the triangle link with the opening gate facing towards the Jumper.
- iv. If the ALICE pack is rigged to be jumped and lowered as a tandem load, route the ejector snap of the HPT lowering line between the attachment strap and the main body of the MAWC, from front to rear, as worn by the Jumper. Attach the ejector snap to the triangle link with the opening gate facing towards the Jumper.
- 9. M9 Aid Bag is authorized to be jumped using a HSPR and a HPTLL.
 - a. Lay out a properly assembled HSPR with the opening gates of the snap hooks facing skyward and remove all twists.
 - b. Place M9 on top of the HSPR, with the bottom of the M9 facing towards the friction adapters.
 - c. Route the equipment retainer straps under the top carrying handle and then cross them at the back forming an "X" configuration.
 - d. Route the friction adapters under the waist strap at the bottom of the M9. The waist strap must be secured together and tightened with all excess webbing stowed.

- e. Secure the equipment retainer straps to their appropriate friction adapters and form quick releases.
- f. Before tightening the HSPR, adjust it so the release handle cross strap is centered. Doing this will make the following steps easier.
- g. Tighten the HSPR and form a two or three finger quick release. S-fold the excess and secure it with either masking tape or retainer bands, one of the two, never both, and there is no preferred method.
- h. Reduce the excess of both shoulder carrying straps. S-fold the excess and secure with masking tape or retainer bands.
- i. Secure the HPTLL in its normal configuration to the "X" configuration via girth hitch.
- j. Route the HPTLL over the left shoulder carrying strap and secure it to the left side by two retainer bands that are girth hitched to the nylon equipment hangers. HPTLL should be routed from bottom to top as the pack is worn by the Jumper.
- k. Secure the sternum strap in front of the quick releases to hold the shoulder carrying straps in place.
- Readjust the HSPR, if necessary, so the release handle cross strap is directly above the bottom of the convenience pouch. Route the compression straps of the convenience pouch over the release handle cross strap, but under the release handle cable and not through the release handle lanyard (see figure 12.6v). Then secure the buckles of the compression straps. This will ensure the HSPR will not shift along the surface of the M9.
- m. Cut two pieces of 1/4" cotton webbing that are approximately a sufficient length. Girth hitch the 1/4" cotton webbing to the horizontal equipment hangers on the bottom of the M9. Tie the 1/4" cotton webbing in a single or double loop bow knot around the HSPR just below the single "X" box stich.



Figure 12.6v – Final Rigging Solution

- 10. Camelbak Talon J.
 - a. The Camelbak Jump Packs can be jumped using the incorporated single point release system, a HPT lowering line, two adjustable D-ring attaching straps, and the two provided female portion leg strap release assemblies.
 - b. The CLJP/TALON-J will be jumped upside down with the bottom resting against the bottom pack closing flap of the reserve parachute.
 - c. The M50 JSGPM cannot be jumped in conjunction with the CLJP/TALON-J. The M50 JSGPM must be placed inside the main compartment.

- d. Prior to rigging the CLJP/TALON-J, all excess webbing should be secured with masking tape, retainer bands, or in their respective hook pile tape retainers. The CLJP/TALON-J should also be checked to ensure that the weight is evenly distributed inside.
- e. The CLJP/TALON-J may be jumped with or without the kidney pad attached.
- f. The shoulder carrying straps can be routed as normal with excess webbing removed or they may be placed completely under the comfort pads. (See Figure 12.6w).



Figure 12.6w – Shoulder Carrying Strap Routing on Camelbak Large Jump Pack/ TALON-J

- g. Rigging procedures for the CLJP/TALON-J.
 - i. Roll back the protective flap that covers the single point release system and secure it in place with the hook and pile tape.
 - ii. The incorporated single point release system will be rigged in the same manner as the HSPR. Two adjustable D-ring attaching straps and the two provided female portion leg strap release assemblies must be used in this process (see Figure 12.6x).



Figure 12.6x – Attachment of D-ring Attaching Straps to CLJP/TALON-J

- iii. The two permanently sewn equipment retainer straps will only be utilized if the entire load weighs 50 pounds or more or if jumping with any item of equipment that can be placed under the closing flap of the ALICE pack/MOLLE (M122 tripod, aiming stakes with case, etc).
- iv. If the CLJP/TALON- J meets these criteria, route the permanently sewn equipment retainer straps directly to the friction adapters at the top of the CLJP/TALON-J without crossing them in an "X" configuration. Remove all slack. The excess will then be S-folded only and secured with either masking tape or retainer bands. If the CLJP/TALON-J does not meet these criteria, then the equipment retainer straps will be placed inside the top convenience pouch.

- v. Remove all slack from both shoulder carrying straps. Roll the excess and secure with the incorporated hook pile tape retainers.
- vi. The looped end HPT lowering line will then be girth hitched to the top carrying handle of the CLJP/TALON-J from either direction.
- vii. Route the HPT lowering line along the left side of the CLJP/TALON-J. Secure it with two retainer bands girth hitched to two of the nylon equipment hangers along the left side.
- viii. Secure the male and female portion leg strap release assemblies together. Roll or S-fold the excess webbing and stow it into its appropriate webbing retainer.

If the provided female portion leg strap release assemblies are missing or unserviceable, they can be replaced with the HSPR female portion leg strap release assemblies. However the male portion leg strap release assemblies must also be replaced.

11. Mystery Ranch RATS CAB Medical Aid Bag (see figure 12.6y).



Figure 12.6y – Mystery Ranch RATS CAB Medical Aid Bag

- a. The Mystery ranch RATS CAB medical aid bag will be rigged and jumped using a harness single point release and the HPTLL. The RATS CAB is designed to offer the medic or medical officer the capability to jump their medical aid bag in addition to sustainment items.
- b. Prior to rigging the RATS CAB all excess webbing will be secured by either retainer band, masking tape, or a webbing retainer.
- c. Lay out a properly assembled HSPR with the opening gates of the snap hooks facing skyward and remove all twists.
- d. Place the RATS on top of the HSPR, outer accessory pouches facing down with the bottom of the RATS facing towards the friction adapters.
- e. Route the equipment retainer straps under the carrying handle inside the adjustable shoulder carrying straps, and then cross them at the back of the RATS forming an "X" configuration.
- f. Route the friction adapters under the waist strap at the bottom of the RATS. The waist strap must be secured together and tightened with all excess webbing stowed.
- g. Secure the equipment retainer straps to their appropriate friction adapters and form quick releases.

- h. Before tightening the HSPR, adjust it so that the release handle cross strap is directly above the bottom of the outer accessory pouches. Doing this will make the following steps easier to accomplish.
- i. Tighten the HSPR and form a two to three finger quick releases. S-fold the excess and secure it with either masking tape or retainer bands, one of the two, never both, and there is no preferred method.
- j. Reduce the excess of both adjustable shoulder carrying straps. S-fold the excess and secure with masking tape or retainer bands.
- k. Secure the HPTLL in its normal configuration to the "X" configuration by routing the looped end HPTLL from top to bottom under the "X" configuration and route the entire HPTLL through the looped end HPTLL forming a girth hitch.
- I. Route the HPTLL over the left adjustable shoulder carrying strap and secure it to the left side of the RATS by girth hitching two retainer bands to the nylon equipment hangers. The HPTLL should be routed from bottom to top as hung on the Jumper.
- m. Secure the sternum strap in front of the quick releases to hold the shoulder carrying straps in place.
- n. Cut two pieces of 1/4" cotton webbing that are approximately 12 inches long. Girth hitch the 1/4" cotton webbing to the retainer band loops on the bottom of the pack body. Tie the 1/4" cotton webbing in a single or double loop bow knot around the HSPR just above the single "X" box stich and under the white attaching loop (see Figure 12.-6z).



Figure 12.6z – Utilize 1/4" Cotton Webbing as the Point of Attachment

 Remove all slack from the adjustable shoulder carrying straps, S-fold the free running ends and secure them with retainer bands or masking tape.





Figure 12.6aa - Final Rigging Solution

- 12. Eberlestock Warhammer and G-1 Little Brother.
 - a. General.
 - i. Eberlestock J51 Warhammer and G1 Little Brother. The J51 Warhammer is designed to encase the medical aid bag inside the pack. The J51 Warhammer was tested and approved with the G1 Little Brother rigged inside the pack; however, other aid bags are authorized to be delivered to the drop zone inside the J51 Warhammer.
 - ii. The J51 Warhammer will be rigged using the HSPR and HPT lowering line.
 - iii. Prior to rigging, all excess webbing will be secured with masking tape, retainer bands, or webbing retainers.
 - b. Rigging procedures.
 - i. Secure an e-tool carrier with E-tool inside to the nylon equipment hangers on the front of the pack body or other pouch to serve as a center outer accessory pouch. If using an E-tool, ensure the E-tool is tied off to a nylon equipment hanger using type II or type III nylon cord (see Figure 12.6bb).



Figure 12.6bb – E-tool Carrier Serving as Center Outer Accessory Pouch

- ii. Remove all slack from both shoulder carrying straps and s-fold the free running ends and secure them with masking tape or retainer bands.
- iii. Secure together all slide fasteners on every zipper with 1/4" cotton webbing.
- iv. Place a properly assembled HSPR over the center accessory pouch. Route the equipment retainer straps underneath the top closing flap of the pack body, under the carrying handle then form the "X" configuration on the rear of the pack body (see Figure 12.6cc).



Figure 12.6cc – Placement of Friction Adapters

v. Route the friction adapters over the pack frame, which is the same as the ALICE pack, then underneath the kidney pad and secure a two to three finger quick release into each equipment retainer strap (see Figure 12.6dd).



Figure 12.6dd – Routing Equipment Retainer Straps

- vi. S-fold the free running ends of each equipment retainer strap and secure them with masking tape or a retainer band.
- vii. Girth hitch the looped end HPT lowering line from north to south or south to north under the "X" configuration of the equipment retainer straps. Tighten the girth hitch against the "X" configuration.
- viii. Secure a sufficient length of 1/4" cotton webbing to the pack body as shown in Figure 12.6ee. Then girth hitch a type 64 retainer band to each loop of 1/4" cotton webbing. This will reduce the potential of the retainer band breaking.
- ix. Route the HPT lowering line over the left shoulder carrying strap and route the HPT lowering line through both retainer bands from top to bottom (see figure 12.6ee).



Figure 12.6ee – Securing the HPT Lowering Line to the Pack Body

x. Route the male portion leg strap release assemblies to their appropriate female portion leg strap release assemblies by the most direct route. S-fold or roll the free running ends and secure them into their webbing retainers (see Figure 12.6ff).





Figure 12-6ff – Adjustable Leg Straps

Figure 12-6gg – View of the Rear of the Pack Body

- 13. Parachutist Drop Bag (PDB).
 - a. General information and nomenclature.
 - b. The PDB weighs 12.8 pounds when empty with all hardware attached and consists of approximately 5,520 cubic inches of storage space. It is 26 inches high, 18 inches wide, and 14 inches deep when fully loaded. The PDB can sustain combat loads ranging from a minimum of 45 pounds to a maximum 120 pounds. The PDB has an incorporated Single Point Release System permanently attached to it, which operates in the same way as the HSPR.
 - c. The PDB is issued with a PDB lowering line, two adjustable D-ring attaching straps and two female portion leg strap release assemblies. When rigging the PDB, either the PDB lowering line or the HPT lowering line may be used (see Figure 12.6hh).
 - d. Either the adjustable D-ring attaching straps issued with the PDB or the adjustable D-ring attaching straps issued with the HSPR may be used. However, they must be utilized as a matched set (see Figure 12.6ii).





Figure 12.6hh – PDB Lowering Line

Figure 12.6ii - Adjustable D-ring Attaching Straps

e. The female portion leg strap release assembly of the PDB and the female portion leg strap release assembly of the HSPR are not interchangeable. The PDB will only be rigged with the PDB female portion leg strap release assembly (see Figure 12.6jj).



Figure 12.6jj – Female Portion Leg Strap Release Assemblies

f. The inspection procedures for authorized alternate items are exactly the same as the issued items. Permanently attached to the back of the PDB are two carrying straps. These are used in the same way as the shoulder carrying straps on the MOLLE. This is the male portion carrying strap secured to the female portion carrying strap (see Figure 12.6kk).



Figure 12.6kk – Shoulder Carrying Straps

- i. When the male portion carrying strap is connected to the female portion leg strap release assembly, it becomes the adjustable leg strap.
- g. Preparation and rigging of the PDB.
 - i. Fully elongate all straps and lay it out with the attaching loops facing skyward. Route the release handle through the release handle cross strap and secure with the hook and pile tape. Ensure the release handle lanyard is not twisted or misrouted through the release handle cross strap or vertical securing strap (see Figure 12.6ll).
 - ii. Route the black attaching loop through the triangle link of the adjustable d-ring attaching strap, ensuring the opening gate of the snap hook is facing down. Route the white attaching loop from bottom to top through the black attaching loop, the red attaching loop from bottom to top through the white attaching loop and through the grommet in the female portion leg strap release assembly. Route the release handle cable through the red attaching loop and into the cable channel (see Figure 12.6ll).



Figure 12-6II – Assembly

- iii. Accomplish this preparation on both sides of the PDB prior to placing the load inside the PDB. As with the HSPR, increased tension in the PDB when filled makes the routing of the attaching loops more difficult to accomplish.
- iv. Unzip the PDB and fully open it, with the camouflage side down.

v. The Jumper's combat load will be placed inside the PDB insuring that the kidney pad is facing down and to the upper most position in the PDB (see Figure 12.6mm).



Figure 12.6mm – Encasing the Pack in the PDB

- vi. Once the combat load is inside the PDB bring the opposite side over the combat load and secure both zippers of the PDB.
- vii. Connect the buckle of the center securing strap. Tighten both ends removing all excess webbing. The center securing strap must be as tight as possible to ensure that the PDB maintains the smallest and tightest configuration (see Figure 12.6nn).
- viii. Tighten down both vertical securing straps, located on either side of the center securing strap. Properly adjusting and tightening these three straps is the key to obtaining the smallest and safest PDB configuration (see Figure 12.600).



Figure 12.6nn – Securing the Snap Hook



Figure 12.600 – Center and Vertical Straps

- ix. Then roll or S-fold the free running ends of all three straps and secure them in their appropriate webbing retainer. Then secure the male and female portions of the lateral securing straps on both sides of the PDB, starting with the lower lateral securing strap. Tighten both lateral securing straps as much as possible. Roll or S-fold all excess and secure them in their webbing retainers. The securing strap fasteners should be on line and as near the zipper as possible. This will prevent the load from shifting within the PDB and put the PDB into the smallest possible configuration.
- x. Ensure the adjustable leg straps are routed by the most direct route and tightened for transport. S-fold or roll the excess of both the male and female portions of the leg strap release assemblies and stow the excess in the webbing retainers.
- xi. You will now secure the PDB lowering line or the HPT lowering line to the PDB. To properly attach the PDB lowering line to the PDB, first route the looped end PDB lowering line through the accessory attaching ring from bottom to top or top to bottom on the back of the PDB. Then route the entire PDB Lowering Line through the Looped End PDB Lowering Line, forming a girth hitch (see Figure 12.6pp and 12.6qq).



Figure 12.6pp – Attaching Ring



Figure 12.6qq – Routing of Ejector Snap

xii. Tighten the PDB lowering line so that the girth hitch is secured to the accessory attaching ring. Route the PDB lowering line to the left, then secure the pile tape on the PDB lowering line from top to bottom to the hook tape inside the permanently sewn retainer flap (see Figure 12.6rr).



Figure 12.6rr – Permanently Sewn Retainer Flap

- **xiii.** The PDB Lowering Line will be S-folded and secured in the permanently sewn retainer flap. None of the S-Folds may protrude from the ends of the permanently sewn retainer flap.
- xiv. Secure the sides of the permanently sewn retainer flap over the S-Folds of the PDB lowering line. If you are using the HPT lowering line instead of the PDB lowering line, there are two acceptable methods to secure the HPT lowering line to the PDB. You will secure the HPT lowering line to the accessory attaching ring in the same manner as the PDB lowering line. Then secure the retainer flap of the HPT lowering line to two of the green attaching loops, either both to the inside or outside of the permanently sewn retainer flap. Secure the HPT lowering line with two retainer bands. Ensure the ejector snap HPT lowering line and looped end HPT lowering line protrude from the same end of the retainer flap (see Figure 12.6ss).



Figure 12.6ss – Securing the HPT Lowering Line

xv. Instead of two retainer bands, you may also secure the retainer flap of the HPT lowering line within the permanently sewn retainer flap on the PDB.

h. MAWC.

i. When jumping the PDB and the MAWC as a tandem load, first secure the PDB to the parachute harness by attaching the right adjustable d-ring attaching strap to the right D-ring, the snap hook will be to the outside of the right connector snap as the outermost item of equipment with the opening gate of the snap hook facing toward the Jumper.

- ii. The left adjustable D-Ring attaching strap will be attached to the left D-Ring as the outermost item of equipment, with the opening gate of the snap hook facing toward the Jumper. Tighten down on the free running ends of the Adjustable D-ring Attaching straps, roll or S-fold the excess, and stow in the webbing retainers. When present, the webbing retainer must be utilized.
- iii. Then route the ejector snap of the PDB lowering line behind the attachment strap on the MAWC.
- iv. Once you route the ejector snap of the PDB lowering line behind the attachment strap on the MAWC, hook the ejector snap to the left triangle link and continue donning as normal.
- i. JMPI of the PDB (reference Appendix G-5).

12.7 UNIVERSAL PARACHUTIST RECOVERY BAG AND AVIATOR KIT BAG

- 1. General Information.
 - a. The instructions for the use of and folding the AKB are located in Chapter 12 of the TC.
 - b. The UPRB will NOT be placed in the Jumpers' jumpable pack.
 - c. The UPRB is used as carriage and storage container for MFF and SL parachute systems (see Figure 12-7a). The UPRB provides the capability for the Jumper to recover the parachute system. The deployed parachute system will be placed inside the UPRB and carried off the DZ. The main parachute will be placed inside the main compartment of the UPRB, while the reserve parachute will be placed in the reserve parachute stowage pocket during recovery.



Figure 12.7a – UPRB as Worn by the Jumper

- d. When jumping <u>WITHOUT</u> CE, Jumpers are authorized to put a military issued, non-ridged water source filled to no more than 3/4ths full inside the UPRB, i.e., 2-quart or camelbak.
- 2. Inspection Criteria. Prior to any airborne operation, the universal parachutist recovery bag must be inspected for any holes, rips, or tears larger than the smallest item of equipment placed inside (male fitting canopy release assembly).
- 3. Folding and Wear of the UPRB (TC 3-21.220 12-21).
 - a. No item of equipment, other than an issued non-rigid hydration system, is authorized to be rigged inside the UPRB. If rigged inside, the hydration system must be no more than ³/₄ full with water. Care must be taken to ensure that the bladder is adequately sealed.
 - b. To properly fold the universal parachutist recovery bag, place it on a flat surface. Invert the universal parachutist recovery bag so that the smooth side is out and tuck all excess webbing inside and then zip it closed. Fold one side of the UPRB by aligning the binding tape and tucking all excess material to the inside. Next, fold the opposite side in the same manner as previously described (see Figure 12.7b). Finally, fold the bottom by pulling the top layer up and tuck all excess material to the inside. Once excess material is tucked, align the top and bottom binding tape. Fold the top by lifting the top layer toward the center and tuck the zipper and snaps to the inside (do not zip the UPRB completely closed). Pull the

bottom corners, this will allow the binding tape to lay flat. Fold top layer back onto the bottom layer aligning the binding tape. Flip the UPRB over so that the leg strap retainer is on the bottom. Ensuring smooth side up, fold the UPRB starting from either side, fold one-quarter or approximately 4-6 inches towards the center (see figure 12.7c).







Figure 12.7c - Folding the UPRB

c. A properly folded UPRB will have the leg strap retainers centered on the last fold and the folds should be between 6-8 inches wide (see Figure 12.7d).



Figure 12.7d – Properly Folded UPRB

d. The Jumper will wear the UPRB so the leg strap retainer is facing out, both left and right leg straps are routed from bottom to top behind the leg strap retainer, and the folded edge of the UPRB is facing toward the ground (see Figure 12.7a).

12.8 THE IMPROVED OUTER TACTICAL VEST, SOLDIER PLATE CARRIER SYSTEM, MODULAR SCALABLE VEST, WAISTBAND ADJUSTER PANEL EXTENSION STRAP, THE TACTICAL ASSAULT PANEL AND THE ADVANCED TACTICAL ASSUALT PANEL

- 1. IOTV, Soldier Plate Carrier System, and the Modular Scalable Vest.
 - a. Body armor is bulky, heavy, and can limit the Jumper's flexibility and mobility. JMs must supervise their Jumpers when donning parachutes to ensure the IOTV/plate carrier is worn properly, reducing further strain and fatigue.
 - b. Jumpers may need to adjust their parachute harnesses to a size larger than they commonly wear to accommodate for the size of the body armor.
 - c. All IOTV attachments must be removed prior to donning (throat and groin protector, Deltoid and Axillary Protector System (DAPS), upper arm protectors). These components must be placed inside of their jumpable pack. The plate carrier does not have these additional component parts.
 - d. Sufficient length in the free running end of the waistband (4 inches) must be exposed from the metal adjuster so the Jumper can grasp the free running end and properly activate the quick release in the waistband. If needed a Waistband Adjuster Panel Extension Strap (WAPES) may be used.
 - e. The IOTV and the plate carrier can be jumped under the parachute harness of the T-11 with the front

and back armor plates installed in the vest. The plates must be properly secured in the carrier pockets, to ensure they do not shift and injure the Jumper at the chin or back of the head (Airborne Commander must assess risk due to Jumper's inability to have freedom of maneuver and increased risk of injury during PLF or emergency landings, i.e. water hazards IVO DZ).

- f. Water jumps.
 - i. When wearing body armor for water assaults, or if there is a need to jump the LPU-10/P life preserver, the LPU-10/P life preserver will be worn over the body armor, ensuring the LPU-10/P life preserver does not rest under any portion of the parachute harness.
- 2. Waistband Extension Strap (WES) and Waistband Adjuster Panel Extension Strap (WAPES).
 - a. If the excess in the waistband is less than four inches in length Jumpers will require a WES or WAPES. When jumping body armor or load bearing vests, etc, most Jumpers will require a WES/WAPES. This should be considered when planning for and requesting air items.
 - Both the nylon type 8 waistband extension strap (WES), locally manufactured, TM 10-1670-299-20&P, 0053 00-6; and the nylon type 7/10 webbing strap, waistband adjuster panel extension strap (WAPES) NSN: 1670-01-677-9460 are authorized for use (Figure 12.8a).



Figure 12.8a – Type 8 WES (Left) Type 7/10 WAPES (Right)

c. To properly secure the nylon type 7/10 WAPES (NSN: 1670-01-677-9460), route the T-11 waistband through the metal adjuster on the WAPES. Route the free running end of the WAPES through the metal adjuster on the waistband adjuster panel (WAP) of the T-11 pack tray. The two or three finger quick release will then be incorporated as normal into the T-11 waistband only, not the WAPES. Take the free running end of the WAPES, ensuring it is routed once through both metal bars on the WAP and then back over the metal bar closet to the pack tray and under the forward metal bar, forming a "dead man's release", and roll it hand under hand back against itself. Finally, use a retainer band to secure the rolled excess (see Figure 12.8b).



Figure 12.8b – IOTV and type 7/10 WAPES

d. The nylon type 8 WES can be locally manufactured by riggers. Riggers will remove the existing waistband and metal adjuster on the WAP from a T-11 pack tray and secure them together IAW the instructions in TM 10-1670-299-20&P, 0053 00-6. To properly route secure the type 8 WES route the waistband on the T-11 through the metal adjuster on the WAPES. Route the free running end of the WES through the metal adjuster on the WAP of the T-11 pack tray. The two or three finger quick release will then be incorporated as normal into the T-11 waistband only, not the WES. Take the free running end of the WES, ensuring it is routed through both metal bars of the WAP and then roll it hand under hand and secure it to the WAP using a retainer band (see Figure 12.8c). The type 8 WES does not require a "dead man's release".



Figure 12.8c – IOTV and type 8 WES

- 3. Tactical Assault Panel (TAP).
 - a. The TAP has been fielded to replace the current Modular Lightweight Load-carrying Equipment (MOLLE) Fighting Load Carrier (FLC) and is more compatible with various types of body armor because it has a quick release function which will allow the Jumper or medics to quickly remove the equipment. Jumpers must understand how to properly configure and wear the TAP system with the T-11 parachute harness and JMs must ensure the TAP system will not interfere with the Jumper reacting to any type of emergency landing. There are two basic rules. First, the reserve parachute will rest parallel with the Jumper's torso. Secondly, when the TAP system is worn, the items of equipment on the side of the TAP system will not rest in front of the horizontal back strap.
 - b. Proper wearing of the TAP for airborne operations.
 - i. Attach the harness portion of the TAP to the ammunition pouch portion. Don the TAP system ensuring there are no twists in the harness webbing and the adjusting buckles are not cracked or broken, then secure them together.
 - ii. Any item of equipment or pouch attached to the front of the TAP system that will interfere with the reserve parachute lying parallel to the Jumper's body must be removed (see Figure 12.8d).



Figure 12.8d – Proper Wear of the TAP

- iii. Remove enough slack from the horizontal back straps of the TAP system so the TAP rests either high on the Jumper's chest or low enough so it will not interfere with the reserve parachute resting flat against the Jumper's body.
- iv. Secure the free running ends inside their appropriate webbing retainers.
- v. Proper rigging of the TAP and parachute harness. JMs, ensure the buddy system is being used.
- vi. Ensure the waistband is not routed through any item of equipment attached to the TAP system.
- vii. Ensure the horizontal back strap is not routed in front of any item attached to the TAP system (see example in Figure 12.8e). This will prevent the Jumper from properly reacting to an emergency landing and will impede the Jumper from getting out of the parachute harness once they have landed.



Figure 12.8e – Radio Pouch in Front of Horizontal Backstrap

- viii. Reduce all slack in the horizontal back strap following the rule stated above. Allow the horizontal back strap to be routed over items of equipment attached to the TAP system but never in front of those items. Tighten the horizontal back strap so it is snug against the Jumper's body or snug up against the item attached to the TAP system.
- 4. TAP with NET Warrior Systems or a similar platform. A rules-based approach is necessary for this type of system because of the various types of load bearing vests in the inventory.
 - a. Nothing on the TAP will be attached to the parachute harness.
 - b. The reserve parachute must rest parallel to the Jumper's torso.
 - c. Four inches of the quick release in the waistband must be exposed from the metal adjuster to ensure the Jumper can properly activate the quick release.
 - d. Handheld radios will be secured in radio pouches and should be tied down with gutted 550 cord or equivalent. EUDs will be secured in their case attached to the TAP. Placement of the pouch and case is the user's preference as long as all rules are followed.
 - e. Antennas can be secured to the radio; however, it cannot extend above the bottom of the canopy release assembly.
 - f. Adapter cables and accessories. All adapter cables, with the exception of the headset, can be connected prior to donning the parachute harness. All excess cable will be stowed and secured so it will not interfere with the Jumper properly exiting the aircraft or become a hazard throughout their descent

(each type of TAP has different capabilities for stowing/securing cables, JMs must use their best judgement when evaluating the Jumper's TAP configuration).

- g. Once the Jumper has completed JMPI, the headset adapter cable can be connected to the Push-To-Talk device to allow leaders to communicate en route to the DZ. Reference Figure 12.2j, securing headset adapter cables. Key leaders must disconnect the headset adapter cable and resecure it to their helmet at the 20-minute time warning.
- 5. Attachment panel for the TW-400 CUB with EUD. This system requires an attachment panel to be attached to the TAP so the EUD is accessible to the Jumper when rigged in the parachute harness. Tie-downs are recommended (see Figures 12-8f 12-8g, 12-8h, and 12-8i).



Figure 12.8f – EUD Attachment Pane



Figure 12.8h – Right Side Tie-Downs

6. Advanced Tactical Assault Panel (A-TAP).



Figure 12.8g – Back Side of the TAP



Figure 12.8i – Left Side Tie-Downs

a. The A-TAP is an individual load bearing system designed to provide static line parachutists the ability to rig their fighting load under their parachute harness and below their waistline. The intent is to remove the Soldier's fighting load from behind the reserve parachute thereby providing better access to the reserve rip cord handle. The A-TAP design is also intended to provide parachutists immediate access to their fighting load upon landing. When donning the A-TAP for Airborne Operations it must be placed into "Jump Configuration" as such: the two front quick release buckles, connecting the suspenders to the panels, must be released and the webbing extended so that the A-TAP sits below the waistline, and the center attachment buckle must be undone, figure 12.8j.



Figure 12.8j - Jump configuration

b. Using the Buddy system, Jumpers will don their T-11 ATPS over the A-TAP. When properly worn, the A-TAP it will be positioned just below the bottom of the pack tray in such a manner so no portion of the parachute harness (i.e. waistband, horizontal back strap, etc.) rests on any major accessory item of the A-TAP (i.e. ammunition pouches or canteens). Also, ensure the A-TAP is not covering any points of contacts and is not buckled in front. Jumpmasters and Jumpers must not wear knives on a point of contact and all sharp or protruding edges must be padded and taped. Proper wear of the A-TAP will present a nice snug fit against the Jumpers' body and prevent it from becoming entangled with risers, suspension lines or equipment inside the aircraft. Ensure that any item of equipment that may fall out or come free must be tied off, figure 12.8k.



Figure 12.8k- A-Tap under T-11

12.9 LIFE PRESERVERS

- 1. General Information. There are two types of life preservers authorized for use, the LPU-10/P and the Tactical Flotation Support System (TFSS).
- 2. The LPU-10/P Life Preserver.
 - a. The LPU-10/P life preserver consists of two neoprene-coated fabric flotation cells, each packed into a flat envelope container and attached to a simple harness. The LPU-10/P flotation bladder is worn over the TAPS or the Fighting Load Carrier and under the parachute harness. The inflation system utilizes a manually actuated Carbon Dioxide (CO2) cartridge for primary inflation and or oral inflation tube for secondary inflation. The manual inflating valves must be completely closed when donning the life vest.
 - b. Ensure the life preserver is worn so no inflatable portion is between the parachute harness and the Jumper's body. Serious injury may result if it is in this position when inflated.
 - c. If the closing tie becomes unserviceable, it may be secured to the container flaps on the LPU-10/P using two turns of masking tape.
 - d. Donning the LPU-10/P

- e. To fit the LPU-10/P, route each arm through the harness so there is one inflatable pocket under each arm and facing to the outside with the lanyards facing down towards the front.
- f. Adjust the shoulder straps so the inflatable pockets fit approximately one hand width under the arms by tightening the shoulder straps, removing the slack, and securing the excess in its appropriate webbing retainer.
- g. Adjust the waist strap for a snug fit and secure the free running ends in retainer bands.
- 3. The TFSS Life Preserver.
 - a. The TFSS-5326 was designed to provide 80 pounds of flotation on the surface of the water. Each TFSS-5326 system consists of one each independent left and right hand units, which can be mounted on a belt. Each unit includes a welded flotation bladder, an inflation system, a pouch closure system, a pouch, and a firing handle. The bladder is a reusable welded fabric enclosure that deploys under the arm and is readily collapsed and stowed for future use. The inflation system utilizes a manually actuated CO2 cartridge for primary inflation and or oral inflation tube for secondary inflation.
 - b. Identification: The two units are identified by colored firing handles. The left unit is identified by a red and black colored firing handle, and the right unit is identified by a black firing handle.
 - c. Donning the TFSS must be done prior to donning the parachute harness.
 - d. Don the TFSS utilizing the provided waist strap.
 - e. Inspect the waist strap to ensure the fastener is serviceable, the firing handles are facing up and the red firing handle is located on the left side.
 - f. Wrap the waist strap around waist and snap the fastener.
 - g. Don the TFSS utilizing the Jumper's own belt.
 - h. The Jumper will undo and remove the free running end of the belt from the trouser belt loops. With the friction adapter of the belt on the Jumper's left side, route the belt through the first trouser belt loop.
 - i. Route the belt through the left TFSS unit ensuring the firing handle is facing upwards.
 - j. Skip the second trouser belt loop and then route the belt through the third, fourth, and fifth belt loops.
 - k. Skip the sixth belt loop, route the belt through the right TFSS unit ensuring the firing handle is facing upwards.
 - I. Continue routing the belt through the remaining belt loop and secure the belt as normal.
 - m. When donning the parachute harness ensure the TFSS remains generally located on the hips, with the saddle routed over the top of the TFSS unit as it is attached to the belt. Ensure no part of the parachute harness is routed over the front of the TFSS.

12.10 M50 JOINT SERVICE GENERAL PROTECTIVE MASK

- 1. The M50 JSGPM is the replacement for the legacy M40 Protective Mask. The M50 JSGPM consists of a mask, carrier, and accessories. The mask components are designed to minimize impact on the wearer's performance and provide protection from battlefield concentrations of chemical and biological agents. The rigging procedures are nearly the same as the M40 Protective Mask.
- 2. Rigging the M50 JSGPM. The M50 JSGPM has two methods of delivery. It can be rigged exposed by the Jumper or rigged inside the MAWC following the procedures outlined in this section.
- 3. Preparing the M50 JSGPM to be rigged exposed on the Jumper.

- a. Route the leg strap of the M50 JSGPM around the mask carrier, over the closing flap, and secure the leg strap to itself.
- 4. Donning the M50 JSGPM to the Jumper.
 - a. Route the waist strap of the carrier around the waist of the Jumper before donning the parachute harness.
 - b. Place the carrier in the front groin area of the Jumper with the quick opening flap to the right.
 - c. Don the T-11 parachute harness IAW Chapter 6-3. The UPRB will be placed under the mask carrier (see Figure 12-10a). The L-shaped ejector snap pad of the parachute harness will be routed over the waist strap of the carrier and both leg straps will be properly routed through the leg strap retainers of the UPRB.



Figure 12.10a – Properly Positioned M50 JSGPM

- d. Attach the T-11 reserve parachute to the D-rings ensuring the mask carrier rests below the reserve parachute.
- e. When the ALICE pack or MOLLE is attached, ensure the kidney pad rests above the mask carrier and not on top of the mask carrier.
- 5. Rigging the M50 JSGPM inside the MAWC.
 - a. Prepare the M50 JSGPM IAW paragraph 12-10c.
 - b. Properly size the MAWC to the individual weapon.
 - c. Place the weapon inside the MAWC first and the M50 JSGPM on top of the weapon as shown in Figure 12.10b). This will reduce the overall width of the MAWC once rigging is complete.



Figure 12.10b – M50 JSPGM Rigged Inside the MAWC

d. Continue to rig the MAWC IAW the CAASOP.

12.11 INDIVIDUAL WEAPONS

- 1. Individual weapons are jumped with loaded magazines in combat. Blank or live ammunition for individual weapons will be secured in ammunition pouches and stowed or worn on the Jumper. When utilizing the MAWC a magazine can be inserted into the magazine well ensuring there is no round chambered.
- 2. The M16 Rifle or the M4 Carbine must be rigged exposed when being jumped with certain items of equipment (SMJP). At all other times the MAWC will be used for individual weapons and equipment. Experience has shown that exposed weapons significantly increase the risk of a misrouted USL-M or towed Jumper. While some people believe that a Jumper would be able to shoot more quickly if the weapon was jumped exposed, this is not actually the case. Post-combat action reviews clearly reveal that exposed weapons are rendered inoperable when the Jumper lands in mud/dirt and the weapons barrel and action become lodged with mud and debris. An exposed weapon must be protected to keep dirt and debris out during the PLF. It also takes time to remove this protection. However, if jumped in a properly rigged MAWC, the Jumper's weapon is protected and can be ready for action immediately after landing.
- 3. Rigging the M16 series Rifle/M-4 Carbine exposed.
 - a. Fully extend the sling and tape the keepers in place.
 - b. Pad and tape the muzzle and front sight post of the weapon with one layer of bubble wrap secured by masking tape.
 - c. Insert a magazine into the weapon, taping it to the receiver and covering the ejection port cover.
 - d. Pad and tape the forward assist and the charging handle.
 - e. Tape the hand guards to prevent loss upon impact when landing.
 - f. Sling the weapon over the Jumper's left shoulder, muzzle facing down and rotate the pistol grip to face the rear of the Jumper.
 - g. Route the sling under the left main lift web forming a loop, then secure the chest strap through it.
 - h. Thread the waistband through the carrying handle of the weapon and secure it to the metal adjuster on the waistband adjuster panel (see Figure 12.11a). Tighten the waistband securely so the weapon is snug against the Jumper's side, ensuring the weapon is high so the waistband rests below the magazine well (see Figure 12.-11b).



Figure 12-11a – Routing of the Waistband



Figure 12.11b – Proper Routed and Secured Waistband

i. Secure a 12 to 18-inch strand of 1/4" cotton webbing by girth hitching it to the rear sling swivel. Route the strand of 1/4" cotton webbing on the rear swing swivel **UNDER** the left riser assembly and through the **OUTERMOST** diagonal backstrap sizing channel, above the one being utilized with the diagonal backstrap retainer (see Figure 12.11c). Tie the 1/4" cotton webbing with a single or double looped bowknot (see Figure 12.11d).



Figure 12-11c – Routing the Cotton Webbing



Figure 12-11d – Securing the Cotton Webbing

- 4. To jump the M320 Grenade Launcher Module (GLM) exposed, use the procedures as outlined above but place additional padding and tape over the breech and trigger mechanism and over the muzzle ensuring it is secured to the carbine/rifle above.
- 5. To jump the M110 Semi-Automatic Sniper System exposed, the scope and bipod legs must be removed and placed inside the main compartment of the ALICE pack/MOLLE. Use the same procedures as outlined above. The waistband will be routed directly over the rail where the scope would normally be mounted and then secured to its waistband adjuster panel.

12.12 OPTIC SIGHTS AND LASERS FOR INDIVIDUAL AND CREW SERVED WEAPONS

- 1. The decision to jump optic sights and lasers, either attached or unattached (in the jumpable pack or the MAWC) will be left up to the tactical commander and based upon his assessment of the mission.
- 2. If attached, the blank firing adapter must be padded with a minimum of one turn of bubble wrap and secured with retainer bands or tape. Alternatively, 4 strips of 100 mph tape over the protruding end of the BFA will suffice.



Figure 12.12a – Taped BFA

- 3. If the optic or laser is removed from the weapon and placed in the jumpable pack or the MAWC, it must be padded and taped with one turn of bubble wrap and masking tape must be applied vertically and horizontally.
- 4. Variable scopes (sniper rifle and SDMR scopes) must always be padded and taped when jumped to prevent damage.

12.13 M320 GRENADE LAUNCHER MODULE

- 1. General Information.
- 2. The M320 GLM comes with a Day/Night Sight (DNS), or Wilcox Grenadier Sighting System (GSS) and/or a Backup Iron Sight (BIS) which may remain attached to the weapon in either configuration for jumping. Prior to rigging, the DNS must be padded with one turn of bubble wrap and secured by masking tape or retainer bands. The DNS, GSS, and BIS must only be removed if the M320 GLM is to be jumped exposed.

No ammunition will be loaded in the chamber of any weapon to include the M320 GLM during the Airborne operation. All rounds must be secured separately in the jumper's combat load, magazine, or pouch.

- 3. The M320 GLM can be jumped in two different configurations, "Host-weapon" (attached to the Jumper's M-4 Carbine) or "stand alone".
- 4. M4 with M320 Attached ("host-weapon" configuration).
 - a. Collapse the forward pistol grip alongside the barrel into its slimmest configuration and secure it in place with masking tape as seen in figure 12-13a.
 - b. Use one strand of masking tape to secure the breech, running laterally from one side of the barrel, around the trigger mechanism, and back to the opposite side of the barrel. This will secure the barrel and breech in its closed position and prevent it from opening during the jump (see figure 12.13a).



Figure 12.13a – Properly Taped M320 GLM

- c. Rig the M4 inside the MAWC as normal.
 - i. When jumping the M320 attached to M4 with Grenadier Sighting System (GSS), it is too large to fit in the adjustable nose cone of the MAWC. The M4 will be placed inside the MAWC, and an adequate piece of paperboard honeycomb must be used to fill the adjustable nose cone.

- d. To allow the Jumper faster access to the weapon system, all strands of masking tape should have a tag-end folded over, forming a pull-tab.
- 5. Stand Alone Configuration.
 - a. The DNS can be padded with one turn of bubble wrap and placed inside of its carrying case, if desired.
 - b. When it is rigged to be jumped without the carrying case, collapse the buttstock to its shortest position.
 - c. Collapse the forward pistol grip alongside the barrel into its slimmest configuration and secure it in place with masking tape.
 - d. Use one strand of masking tape to secure the breech, running laterally from one side of the barrel, around the trigger mechanism, and back to the opposite side of the barrel. This will secure the barrel and breech in its closed position and prevent shifting during the jump.
 - e. To allow the Jumper faster access to the weapon system, all strands of masking tape should have a tag-end folded over, forming a pull-tab.
 - f. The entire M320 GLM must be then placed inside of the main compartment of the combat load, not in any outer accessory pouch or under the nose cone divider of the MAWC. Ensure there is no metal-to-metal contact or contact with any other rigid item of equipment inside of the load (such as a radio or ammunition).

12.14 PISTOLS

- 1. The pistol will NOT have a loaded magazine inside the magazine well during training operations, and there will NEVER be a round chambered.
- 2. The pistol can be jumped inside the MAWC as a tandem load, inside a jumpable pack, or in a leg holster.
- 3. If the pistol is jumped in a MAWC it will be jumped as a tandem load (ie with an M4, M240, etc). The pistol will be placed in a holster and secured in two places to the nylon webbing under the foam padded internal divider with 1/4" cotton wedding. The secondary load will be placed on top of the FPID,
- 4. If the pistol is jumped inside a jumpable pack the pistol will be placed in a holster and tied down.
- 5. If the pistol will be jumped inside a leg holster the Jumper must:
 - a. Must be able to secure holster to their belt and leg.
 - b. Holster must be able to rotate to the front of the Jumper's leg to avoid the Jumper landing on it while conducting a side PLF (see Figure 12.14a). The pistol may have to be routed over the top of the UPRB depending on the Jumper's height (see figure 12.14b).
 - c. Ensure a lanyard is present and tied down to the Jumper.



Figure 12-14a – Proper Positioning of the Drop Holster



Figure 14b – M17 routed over top of UPRB

12.15 HANDHELD RADIOS

- 1. The AN/PRC-148 Multiband Inter/Intra Team Radio, AN/PRC-152 Single Channel Multiband, Multi-mission Handheld Radio (Harris Falcon III), and other like systems can be jumped in one of the following methods:
 - a. Inside the jumpable pack.
 - b. Inside the MAWC.
 - c. Inside its compartment on the LBV and worn by the Jumper (see Figure 12.8e and 12.8e).
- 2. The AN/PRC-148 and AN/PRC-152 radio may be jumped on any LBV; however, the hand mic must be removed, and the antenna must not extend past the bottom of the canopy release assembly.

12.16 MODULAR AIRBORNE WEAPONS CASE AND CREW SERVED WEAPONS (TANDEM LOADS)

- 1. General Information.
 - a. The MAWC is a modular, fully adjustable, padded, reinforced design, multi-purpose airdrop container that provides the ability to rig a variety of weapons and equipment in a single container, reducing the number of legacy containers. There are two versions of the MAWC. A smaller version properly referred to as the MAWC (see Figure 12.16a) and the Large MAWC.



Figure 12.16a – MAWC

- 2. Rules for Rigging Equipment and Limitations of the MAWC:
 - a. All individual items of combat equipment approved for airdrop can be placed inside the MAWC unless they violate the restrictions outlined in this chapter.
 - b. Items that require specific rigging instructions are included in this chapter.
 - c. The Airborne Commander has the authority to limit the use of any item of equipment if further testing and evaluation is necessary before being rigged inside the MAWC.
 - d. Only two items will be rigged inside the MAWC unless specified in this chapter.
 - e. Only one primary weapon will be rigged inside the MAWC unless specified in this chapter.
 - f. Maximum weight for loads
 - i. MAWC. The maximum weight for the MAWC, including the load, should be 37 pounds; however, the Airborne Commander can authorize up to the maximum approved weight of 65 lbs.
 - ii. Large MAWC. The maximum weight for the Large MAWC, including the load, should be 45 lbs. however, the Airborne Commander can authorize up to the maximum approved weight of 85 lbs.
 - g. Padding and taping. If attached, the blank firing adapter must be padded with a minimum of one turn of bubble wrap and secured with retainer bands or tape. Alternatively, 4 strips of 100 mph tape over the protruding end of the BFA will suffice (See Figure 12.12a). All remaining metallic items do not need to be padded and taped if separated by the foam padded internal divider (FPID) or inside their carrier.
 - h. Minimum and Maximum Length. When adjusting the adjustable nose cone to the minimum length, the first piece of pile tape on the adjustable nose cone must be fully secured to the hook tape on the pack body. For the maximum allowed length, the last piece of pile tape of the adjustable nose cone must be fully secured to the hook tape on the pack body.
 - i. Secondary weapon systems. All secondary weapons placed under the FPID will be secured to the pouch attachment ladder system webbing by girth hitching 1/4" cotton webbing and securing it in place with a bow knot. This includes any pistols, M500 shotgun, M320 GLM, NVGs/NODs, disassembled barrels, etc.
 - j. Compression straps and their quick release buckles must be secured, and all slack removed and secured inside their webbing retainers. If compression straps cannot be secured due to the bulkiness of the load, it cannot be rigged inside the MAWC or the Large MAWC.
 - k. Authorized expendables for rigging the MAWC. The following expendables are authorized for use:
 - Paperboard Honeycomb (PBHC). Use PBHC to fill the void from the base of the adjustable nose cone to the end of the item of equipment or weapon being placed in the adjustable nose cone. PBHC is also used to accommodate large weapons e.g., M3 Multiservice Anti-Armor/Anti-Personnel Weapon System (MAAWS) where the diameter of the tube is too large to reach the base of the adjustable nose cone.
- ii. 1/4" cotton webbing. 1/4" cotton webbing will be used to secure second items of equipment to the Pouch Attachment Ladder System (PALS) webbing, so they do not shift inside the pack body.
- iii. Type 1 (short and fat) and type 64 retainer bands (long and skinny) can be used to secure free running ends of webbing, as well as tape. A type 64 retainer band will be girth hitched to the vertical nylon equipment hanger below the lower tie-down strap stow pocket, or the vertical nylon equipment hanger betom compression strap, in order to secure the adjustable leg strap.
- 3. Donning of the MAWC (proper fit to the height of the Jumper). When properly rigged and secured to the parachute harness, the bottom of the adjustable nose cone will not be less than six inches from the ground. The top of the MAWC will sit in the Jumpers armpit. Ensure the Jumper has good range of motion with their left arm (regardless of what paratroop door they are exiting).

When the MAWC is properly rigged and secured to the parachute harness, the bottom of the adjustable nose cone must be at least six inches from the ground and the top sit in the Jumpers armpit.

- 4. Inspection Process for the MAWC.
 - a. This is the responsibility of the Jumper. A thorough inspection will be conducted of the MAWC prior to any airborne operation.
 - b. Inspection process. Ensure:
 - i. An upper tie-down tape is present, constructed of 1/4" cotton webbing, and girth hitched to the left horizontal back strap of the parachute harness below the rolled excess webbing of the free running end.
 - ii. The quick release buckles are not cracked or broken.
 - iii. The compression straps are not cut or excessively frayed.
 - iv. The slide fastener and tabbed thong is present.
 - v. The nose cone securing straps are not cut or excessively frayed and they are properly routed through the friction adapters.
 - vi. The pile tape on the adjustable nose cone is not excessively worn.
 - vii. The adjusting strap is properly adjusted and secured behind the nylon equipment hangers, properly routed through the friction adapter and the free running end is secured.
 - viii. The bottom two male portion snap fasteners are present on the pack body for the yellow safety lanyard to be secured.
 - ix. Girth hitch a retainer band to the vertical nylon equipment strap just above the bottom compression strap on the MAWC. This retainer band will be used later in securing the adjustable leg strap (Figure 12.4a)

While inspecting the MAWC, ensure a retainer band is girth hitched to the horizontal nylon equipment hanger just above the friction adapter of the adjusting strap located on the rear of the MAWC. Additionally, girth hitch a retainer band to the vertical nylon equipment hanger located above or below the lower tie-down strap stow pocket.

- 5. Rigging the MAWC to jump as a tandem load with an M4 Carbine.
 - a. Rigging the MAWC.
 - b. Lay the MAWC out flat with the closing flap facing up and opened.
 - c. Loosen the nose cone securing straps located inside the pack body and release the hook and pile tape securing the adjustable nose cone in place (see Figure 12-16b).



Figure 12.16b – Nose Cone Securing Straps

d. Lay the FPID down so the rifle butt pocket is facing skyward. Place the muzzle of the weapon inside the adjustable nose cone and the rifle butt into the rifle butt pocket (ensure the rifle butt stock is extended to at least the ³/₄ position). Ensure the forward assist is facing skyward (see Figure 12.16c).



Figure 12.16c – M4 with Butt Stock at ³/₄ Position

- e. Adjust the adjustable nose cone so the muzzle of the weapon is firmly against the base of the adjustable nose cone. Remove the weapon and secure the hook tape on the pack body to the pile tape on the adjustable nose cone.
- f. Ensure the nylon webbing located above the hook tape inside the adjustable nose is folded back up inside the pack body so it will not interfere with the proper securing of the hook and pile tape.
- g. When extending the MAWC to its maximum length the upper most strip of pile tape must be fully secured to the hook tape. Remove all slack from the nose cone securing straps inside the pack body (this is a mandatory safety feature). Then place the weapon back inside muzzle first, rifle butt in the rifle butt pocket, and forward assist facing skyward.

A 30-round magazine can be placed inside the magazine well but no round can be chambered.

- h. Secure the closing flap.
- i. Utilize the hook and pile tape, two snap fasteners, and the slide fastener and tabbed thong. Route the

slide fastener and tabbed thong up until it rests against the upper spring stop.

j. Route the compression strap through the appropriate vertical nylon equipment hanger, secure the quick release buckles of the compression straps, and remove all slack (see Figure 12.16d). Ensure the excess of the compression straps are rolled or S-folded and secured inside their webbing retainers. You may use a retainer band or one-inch wide masking tape if the webbing retainers are not present.



Figure 12.16d – MAWC Compression Straps

- k. Securing the tabbed thong and upper tie-down tape (using the snap fastener is not mandatory but encouraged). To complete the rigging process, secure the tabbed thong to the snap fastener to secure it during transport (if applicable). Then adjust the adjusting strap so the snap shackle rests in generally the correct position along the PALS webbing. Ensure that you have a sufficient length of 1/4" cotton webbing to form the upper tie-down tape.
- I. Sizing the adjusting strap. A correctly seated MAWC is shown in figure 12.16f, the upper tie down tape is parallel to the ground and the top of the MAWC rest in the armpit of the Jumper. IOT achieve this fit most Jumpers will need to size their MAWC IAW figure 12.16e and route the adjusting strap through the fourth rung of the horizontal nylon equipment hanger with one to two inches exposed to facilitate securing the snap shackle. When adjusting the adjusting strap do NOT completely remove the free running end from the friction adapter. The free running end will be secured in one of two ways. It can be secured underneath the horizontal nylon equipment hanger located just above the friction adapter. The free running end can the horizontal nylon equipment hanger located just above the friction adapter. The free running end can then be rolled or S-folded and secured with the retainer band as shown in figure 12.16f. This is the preferred method for securing the excess.



Figure 12.16e – Recommended MAWC adjustment strap sizing

- m. Donning the MAWC to the Jumper as a tandem load. After the Jumper has donned their main and reserve parachute and their jumpable pack is properly secured to the Jumper's parachute harness, you will fit the MAWC to the Jumper. To fit the MAWC to the Jumper you must follow these rules:
 - i. When secured to the Jumper the bottom of the adjustable nose cone will rest no less than six inches from the ground.
 - ii. The top of the MAWC will rest in the vicinity of the Jumpers armpit (between the D-ring and the bottom of the canopy release assembly). Secure the snap shackle to the Jumpers left equipment ring as the outer most item of equipment. Ensure the opening gate is facing toward the Jumper. Once hung, make any necessary adjustments to the MAWC. This may require you to remove the MAWC. If no corrections are required, secure the yellow safety lanyard to one of the male portion snap fasteners. Utilize the snap fastener that will provide the most slack in the yellow safety lanyard.
 - iii. Girth hitch a piece of 1/4" cotton webbing on the horizontal backstrap of the parachute harness below the free running end on the Jumpers left side. Secure the tabbed thong by the snap fastener, upper tie-down tape, or both the upper tie-down tape and the snap fastener. Route the upper tie-down tape through the tabbed thong, or past it, then through the vertical nylon equipment hanger towards the front of the closing flap. Route the other end from rear to front (or bottom to top) through the small cut-away portion of the left equipment ring (see Figure 12.16f). Secure both ends at the lead edge of the MAWC with a single loop or double loop bow knot.





Figure 12.16f – Attachment and Routing of the Upper Tie-Down Tape

iv. The ejector snap of the HPT lowering line will be routed from front to rear, as worn by the Jumper, through the attachment strap of the MAWC, and secured to the triangle link as the outermost item of equipment (see figure 12.16g).



Figure 12.16g – Routing of HPT lowering line through MAWC to the Triangle Link

6. MAWC rigged to be jumped as a single item of equipment. Girth hitch the looped end HPT lowering line to the attachment strap. Route the HPTLL through the MAWC carrying handle. Girth hitch two retainer bands to the horizontal nylon equipment hangers located beside the carrying handle so they will be evenly spaced along the retainer flap. Route the HPT lowering line from bottom to top through the retainer bands (see Figure 12.16h).



Figure 12.16h – HPTL configuration for MAWC jumped as a single item of equipment.

- 7. Examples of two item loads.
 - a. M4 Carbine and M24 Tripod (Aiming Circle Tripod).
 - i. The M24 Tripod will be rigged inside the Large MAWC with the Jumper's M4 Carbine.
 - ii. Padding and taping the base of the M24 Tripod is necessary to ensure the spikes do not damage the MAWC (see Figure 12.16i). The M24 Tripod will be placed under the FPID.



Figure 12.16i – M24 Tripod

iii. Place the tripod as close to the closing flap as possible; this will allow you to fold over the FPID and secure the weapon as you normally would (see figure 12.16j).



Figure 12.16j – M24 Tripod and M4 in the MAWC

- iv. Place a piece of 6 ½ inch by 11-inch PBHC inside the adjustable nose cone to fill the void and allow the muzzle to rest against it.
- b. M4 Carbine and M320 GLM.
 - i. The M320 GLM will be placed underneath the FPID and will be secured to the PALS webbing with 1/4" cotton webbing.

ii. The M4 Carbine will be placed inside in its normal configuration.

Any second item of equipment placed under the FPID must be secured in place using 1/4" cotton webbing. This will prevent the item of equipment from potentially sliding out of the sides of the adjustable nose cone.

8. Crew Served Weapons.

The M240B, M240L, or M192 Light Weight Ground Mount (LWGM), and spare barrel bag.

- a. M240B will be rigged inside the Large MAWC when assembled. It can be disassembled and placed in the MAWC following these procedures:
 - i. Remove the barrel and size the MAWC to the M240B receiver.
 - ii. When placing the front of the weapon inside the adjustable nose cone it is best to rotate the bipod down/optic up and push the weapon to the base of the adjustable nose cone. Then rotate the cocking handle skyward and lay the weapon onto the foam padded internal divider (FPID) with the rifle butt in the rifle butt pocket. Otherwise, it is difficult to get the bipod in the adjustable nose cone.
 - iii. Secure the hook and pile tape on the adjustable nose cone and remove the weapon and remove all slack from the nose cone securing straps.
 - iv. Place the barrel underneath the FPID, under the nose cone divider and near the slide fastener (see figure 12.16k).



Figure 12.16k – M240B barrel secured inside MAWC

- v. Secure the barrel by girth hitching 1/4" cotton webbing to the PALS webbing in two places and secure it using a bow knot.
- vi. Fold the FPID back over and place the receiver back inside the MAWC (see Figure 12.16l).



Figure 12.16I – M240B Receiver inside MAWC

- vii. Continue to rig the MAWC using normal rigging procedures.
- viii. M240L can be rigged in the MAWC with short barrel attached and butt stock collapsed.
- ix. Spare barrel bag and M4 can be rigged inside the MAWC together. Place the spare barrel bag under the FPID and secure using two sufficient lengths of 1/4" cotton webbing secure the bag to the nylon equipment hangers. Place the M4 on top of the FPID.
- x. M192 Light Weight Ground Mount (LWGM) and M4 Carbine can be rigged inside the MAWC. Secure the M192 LWGM to the nylon equipment hangers in two places with 1/4" cotton webbing. Place the M4 on top of the FPID. Additional padding and taping of the LWGM is not required.
- b. Rigging the M192 LWGM or Spare Barrel Bag in the Jumpable Pack.
 - i. The M192 LWGM can be jumped under the closing flap of the ALICE pack/ MOLLE/ MOLLE 4K.
 - ii. Place the M192 LWGM into its collapsed carrying configuration and tie the legs together with a sufficient length of 1/4" cotton webbing in a non-slip knot (see Figure 12.16m).



Figure 12.16m – Tie-Downs for the M192 LWGM

- iii. Tape all retaining pin pull rings using one turn of masking tape.
- iv. Pad the integrated T&E mechanism with two turns of bubble wrap and secure with masking tape.



Figure 12.16n – M192 LWGM Padded and Taped

- v. Pad the entire LWGM in the same manner as the T&E mechanism. By doing this, the leg- locking stud will be protected from impact (see Figure 12.16n).
- vi. Place the M192 LWGM directly under the closing flap of the ALICE pack /MOLLE/ MOLLE 4K with the bulk of the T&E facing down towards the main compartment. Secure the closing flap, removing all slack (see Figure 12.16o).



Figure 12.160 – M192 LWGM Rigged Under Closing Flap of MOLLE

- vii. Secure the LWGM the horizontal equipment hangars on the side of the pack with a sufficient length of 1/4" cotton webbing using a single or double looped bow knot.
- viii. Rigging the Spare Barrel Bag. Place the spare barrel bag directly under the closing flap of the jumpable pack, tying it down with a length of 1/4" cotton webbing at both sides. Then secure the closing flap, removing all slack.
- c. Rigging the M122 Tripod.
 - i. Detach the flex mount and Traverse & Elevation (T&E) mechanism. Pad and tape these items with two turns of bubble wrap and masking tape. The flex mount and T&E mechanism must be placed inside the main compartment of the ALICE pack/MOLLE/MOLLE 4K.
 - ii. Fold the M122 tripod's short leg down and secure it with a sufficient length of 1/4" cotton webbing in a single or double looped bow knot. If jumping the M122 tripod inside of the spare barrel bag, the short leg does not need to be tied off (see Figure 12.16p).



Figure 12.16p – M122 Tripod

iii. When rigging in ALICE pack /MOLLE/MOLLE 4K: Place the M122 tripod directly beneath the closing flap with the short leg facing down into the main compartment of the ALICE pack/ MOLLE.

- d. The 60mm Mortar Weapon System.
 - i. The M225 and the M225A1 Cannon will be rigged inside the MAWC (see Figure 12.16q). Follow the same procedures described in the M3 MAAWS section



Figure 12.16q – M225 Cannon and M4 Rigged inside the MAWC

ii. The M170 Bipod (older model) will be rigged inside the MAWC with the M4 secured in the locking collar. Pad and tape the points where there will be metal-to-metal contact. Ensure the muzzle of the weapon and the long legs of the bipod are inside the adjustable nose cone. The M170A1 Bipod Assembly (newer model) must be rigged inside the Large MAWC with the M4 following the same rigging procedures as the M170 Bipod (see Figure 12.16r).



Figure 12.16r – M170A1 and M4 Rigged inside the MAWC

- iii. Rigging of 60mm Mortar Ammunition
 - a. A maximum of six mortar rounds can be jumped in the ALICE pack/MOLLE/ MOLLE 4K.
 - b. The 60mm mortar ammunition will be removed from its case and can be jumped either inside its inner packaging tubes, or with the tubes removed.
 - c. If ammunition is to be jumped inside its inner packaging tube, each tube of ammunition will be placed inside the ALICE pack/MOLLE/ MOLLE 4K. No additional padding is required.
 - d. If ammunition is to be jumped with the inner packaging tube removed, each round will be wrapped in two layers of cellulose wadding or bubble wrap and secured with masking tape. It will then be placed inside the ALICE pack/MOLLE/ MOLLE 4K. The ammunition must be placed inside of the main compartment with the closing flap secured. Do not place any ammunition directly under the closing flap.
 - e. Complete rigging the ALICE pack/MOLLE/ MOLLE 4K as previously described.
- iv. Rigging the 60mm mortar aiming stakes with case.
 - a. Inspect the aiming stakes with case for serviceability. If the lift fastener on the closing flap is missing or unserviceable, it may be secured with two turns of 100 mph tape.
 - b. Girth hitch two sufficient lengths of 1/4" cotton webbing to either the compression straps or around the entire case.

- c. Place the aiming stakes under the top closing flap of the ALICE pack/MOLLE/ MOLLE 4K.
- d. Route the 1/4" cotton webbing through the vertical equipment hangers on each side of the ALICE pack/MOLLE. Remove all slack and tie in place with a single or double loop bow knot.
- e. Secure the closing flap.
- f. Complete rigging the ALICE pack/MOLLE/ MOLLE 4K as previously described.
- v. Rigging the M64 Sight Assembly.
 - a. The M64 sight assembly may be jumped with or without its case.
 - b. If the M64 sight assembly is to be jumped with the case, secure the case with one layer of cellulose wadding or bubble wrap secured with masking tape.
 - c. If the M64 sight assembly is to be jumped without the case, wrap the M64 sight assembly with two layers of cellulose wadding or bubble wrap secured by masking tape.
 - d. Place sight assembly inside the ALICE pack/MOLLE/ MOLLE 4K and secure the closing flap.
- vi. Rigging the M8 or M8A1 small baseplate.
 - a. Wrap the M8A1 small baseplate in two layers of cellulose wadding or bubble wrap and secure with masking tape.
 - b. Place M8A1 small baseplate inside the ALICE pack/MOLLE/ MOLLE 4K and secure the closing flap.
 - c. Complete rigging the ALICE pack/MOLLE/ MOLLE 4K as previously described.

The M8 OR M8A1 small baseplate will not be placed inside of the MAWC. It must be jumped in a jumpable pack.

- vii. Rigging the M7 or M7A1 large baseplate with an ALICE Pack.
 - a. Place the M7 large baseplate on top and centered on the center outer accessory pouch of the ALICE pack, with the legs pointed upward and aligned with the four corners of the frame.
 - b. Cut four pieces of ½" to one-inch tubular nylon webbing. Route the four pieces of tubular nylon webbing, two under the tubular portion of the baseplate between the V-notch formed by the base of the frame and the tubular portion of the frame (bottom), two to the inside of the shoulder carrying strap loops (top) of the ALICE frame. Route through the center cut-away portion of the baseplate, behind the legs and temporarily secure with a single or double looped bow knot (see Figure 12.16s).



Figure 12.16s – Secure M7 Large Baseplate to ALICE Pack with Tubular Nylon This picture was taken with 1/4" cotton webbing to better display/emphasize where the tubular nylon would be routed.

c. Drape a properly assembled HSPR over the baseplate, ensure the opening gates of the snap hooks are facing downward and towards the base of the frame (see Figure 12.16t).



Figure 12.16t – Drape HSPR over M7 Large Baseplate This picture was taken with 1/4" cotton webbing to better visualize/display where the tubular nylon would be routed

- d. Route the equipment retainer straps over the baseplate, between the legs and over the bottom cutaway portion and under the top cut-away portion. Ensure the equipment retainer straps are routed under the top securing ties and to the outside of the shoulder carrying straps loops, under the envelope cushion portion and the tubular portion of the frame.
- e. Continue to rig the HSPR to the ALICE pack.
- f. Ensure that the white attaching loops are in line and located at the bottom of the ALICE pack, and the entire release handle is accessible to the Jumper.
- g. Untie the four pieces of tubular nylon webbing, tighten and re-secure with a square knot and place a half hitch in each free running end (see Figure 12.16u).



Figure 12.16u – M7 Large Baseplate Secured to ALICE Pack with HSPR

- h. Trim all excess of the tubular nylon webbing to within two inches in length.
- i. Finally, route the male portion, leg strap release assembly from the point where it is sewn to the equipment retainer straps, by the most direct route, down the side of the ALICE pack. Secure it to the female portion, leg strap release assembly. Tighten the adjustable leg strap, then S-fold or roll the excess webbing and secure it in the webbing retainer.
- viii. Rigging the M7 large baseplate with a MOLLE 4000.
 - a. If jumping a MOLLE 4000, the center outer accessory pouch must be empty in order to ensure the M7 or M7A1 large baseplate will remain stable.
 - b. Position the large baseplate on top of the MOLLE 4K with the legs facing skyward and positioned so that the legs face north to south and east to west. They will not be aligned with the corners of the pack.
 - c. Cut four pieces of ½ to one-inch tubular nylon webbing. Route the four pieces of tubular nylon webbing through all cut-away portions of the large baseplate. The top tie downs will be secured through the square cut-away portion centered on the MOLLE 4K frame, under the back pad. The bottom tie downs will be secured through the large cut-away portion at the base of the MOLLE 4K frame and all ties will be temporarily secured with a single or double looped bow knot.
 - d. Route the equipment retainer straps through the corresponding side bottom opening of the large baseplate, under the horizontal frame of the baseplate, through the air item routing channel located above the outer accessory pouches. Finish routing the equipment retainer straps through the corresponding top opening of the baseplate and through the friction adapter, ensuring there are no twists.
 - e. Continue to rig the I-HSPR to the MOLLE 4K as normal.
 - f. Untie the four pieces of tubular nylon webbing, tighten and re-secure the nylon webbing with a square knot and place a half hitch in each free running end.
 - g. Trim all excess of tubular nylon webbing to within two inches in length (see figure 12.16t).



Figure 12.16t – Proper rigging of the M7 large baseplate with a MOLLE 4000





Figure 12.16t – Proper rigging of the M7 large baseplate with a MOLLE 4000 (cont)

- ix. Rigging the M7 large baseplate with a Large MOLLE.
 - a. If jumping a Large MOLLE, the outer accessory pouch in the center between the release handle cross strap and the adjustable cross strap will be removed to ensure that M7A1 large baseplate will remain stable.
 - b. Position the M7 large baseplate directly on top of the MOLLE with the legs facing skyward and positioned at the corners of the frame.
 - c. Cut four pieces of ½ to one-inch tubular nylon webbing. Route the four pieces of tubular nylon webbing through the center cut-away portions of the M7 large baseplate, behind the legs, and then through the top and bottom cut-away portions of the MOLLE frame. Temporarily secure the ties with a single or double looped bow knot (see Figure 12.16u).



Figure 12.16u – Route Tubular Nylon on MOLLE for M7 Large Baseplate

- d.Drape a properly assembled HSPR over the baseplate ensuring the opening gates of the snap hooks are facing down and towards the bottom of the MOLLE frame.
- e. Route the equipment retainer straps over the baseplate, between the legs and over the bottom cutaway portion and under the top cutaway portion. Ensure the equipment retainer straps are routed under the top securing ties and then through the top cutaway portions of the MOLLE frame above the adjustable shoulder carrying straps.
- f. Continue to rig the HSPR to the MOLLE as described in 12.6 section 8.
- g. Ensure the white attaching loops are in line and located at the bottom of the MOLLE, and the entire release handle assembly is accessible to the Jumper.

- h. Untie the four pieces of tubular nylon webbing, tighten and re-secure with a square knot and place a half hitch in each free running end.
- i. Trim all excess of the tubular nylon webbing to within two inches in length.
- j. Finally, route the male portion, leg strap release assembly from the point where it is sewn to the equipment retainer straps, by the most direct route, down the side of the MOLLE. Secure it to the female portion, leg strap release assembly. Tighten the adjustable leg strap, then S-fold or roll the excess webbing and secure it in the webbing retainer.



Figure 12.16u – HSPR laid out on the M7 Large Baseplate

- e. M3 MAAWS (Carl Gustav).
 - i. Rigging the MAWC to be jumped as a tandem load with the M3 MAAWS.
 - ii. Limitations and restrictions: due to the size and weight of the M3 MAAWS rigged inside the Large MAWC it will be considered a special item of equipment. The following procedures and restrictions are in place to ensure the safe delivery of this item to the DZ:
 - iii. The Jumper will be no less than 70 inches in height (five feet and 10 inches).
 - iv. It will only be exited from the right paratroop door and will be considered one of the 12 special items of equipment allowed on any one aircraft.
 - v. The Safety will don the M3 MAAWS on the Jumper at the 20-minute time warning and conduct a technical inspection ensuring it is properly rigged to the Jumper.
 - vi. The M3 MAAWS must be rigged in the Large MAWC.
 - vii. The M3 MAAWS may be rigged with an M4.
 - viii. Components.
 - A. M3 MAAWS.
 - B. Telescopic sight.
 - C. M4 Rifle.
 - D. One four-inch by ten-inch piece of PBHC.
 - E. HPT lowering line.

- ix. Preparation of Equipment and rigging procedures.
 - A. Inspect the Large MAWC to ensure serviceability.
 - B. Lay the MAWC on the ground with the FPID folded over the closing flap and the adjustable nose cone fully elongated.
 - C. Insert one four-inch by ten-inch piece of PBHC into the adjustable nose cone of the weapons case.
 - D. Place the venturi and muzzle covers on the weapon.
 - E. Remove the telescopic sight and laser and pad with bubble wrap or cellulose wadding. Either position the telescopic sight package between the front grip and the shoulder pad, or alongside the firing mechanism and secure to the weapon with two lengths of 1/4" cotton webbing, or place inside the main compartment of the ALICE pack or MOLLE.
 - F. Place the weapon in the case with the muzzle towards the bottom of the case and the front grip flat against the case. Position the weapon so the carrying handle is against the non-slide fastener side of the case.
 - G. Push the venturi end of the weapon, extending the adjustable nose cone until the weapon end is nearly flush with the top of the MAWC. There should be four strips of hook-pile tape showing on the adjustable nose cone of the weapons case.
 - Η.
 - I. Tighten the securing straps, ensuring the adjustable nose cone will not extend any further.
 - J. Place the M4 in the MAWC with the muzzle pointed down and the pistol grip towards the M3 MAAWS (see Figure 12.16v).



Figure 12.16v – M3 MAAWS and M4 Rigged in the MAWC

- f. Sniper Rifles.
 - i. All snipers or designated marksman are authorized to add an additional primary weapon (M4 Carbine or similar weapon system) to the MAWC for personal protection. Depending on the type of sniper rifle being delivered the individual may not be able to effectively defend themselves on the DZ. The M4 will be placed inside the MAWC IAW the rigging procedures outlined in rigging of M4 with the M3 MAAWS.
 - ii. The M107 Heavy Caliber Anti-Materiel/Anti-Personnel Sniper Rifle, XM2010, M14 Enhanced Battle Rifle (EBR), and the M110 sniper rifles will all be delivered inside the small MAWC. Padding and taping is required for all variable scopes.
 - iii. The collapsible butt stock on the XM2010 must be folded down. This will protect the bolt handle when the weapon is placed inside the MAWC with the bolt handle facing down.

iv. The forward assist is facing down on the M110 because the telescopic sight is too large for the weapon to be placed inside the MAWC with the forward assist facing up (see Figure 12.16w). The suppresser must be removed and placed in the main compartment of the jumpable pack.



Figure 12.16w – M110 Rigged in the MAWC

- v. Rigging procedures for the M107.
 - A. The M107 must be broken down into two parts, the upper and lower receiver. Configure the lower receiver so the bolt carrier group is recessed into the main spring area of the lower receiver locking it to the rear with the small take down pin and the bipod legs are folded to the rear. Using 1/4" cotton webbing, secure both take down pins to the butt stock of the weapon. Then configure the upper receiver so the barrel is recessed into the upper receiver. Pad and tape the upper receiver before placing it inside the MAWC (see Figure 12.16x). Both items can be placed on top of the FPID and secured in the adjustable nose cone.



Figure 12.16x – M107 Broken Down and Padded and Taped

- g. COM-201B Antenna.
 - i. Preparation.
 - A. Fold the legs and place the COM-201B into its carrying configuration.
 - B. Secure the upper mast to the lower mast using two turns of masking tape.
 - C. Secure the legs to the lower mast using two turns of masking tape.
 - D. Wrap the three threaded knobs with two turns of bubble wrap and secure with at least two turns of masking tape (see Figure 12.16y).



Figure 12.16y – COM 201B Padded and Taped

- ii. Rigging the COM-201B Antenna inside the Large MAWC.
 - A. Place a six inch by ten-inch piece of PBHC inside the adjustable nose cone of the MAWC.
 - B. Size the Large MAWC to the M4.
 - C. Fully extend the nose cone divider adjusting strap on the back of the nose cone divider.
 - D. Place the COM-201B Antenna underneath the nose cone divider. Ensure the base of the antenna rests against the bottom of the envelope pocket.
 - E. Fold the nose cone divider and the FPID over top the COM-201B Antenna and place the M4 inside with the forward assist facing skyward.
- iii. Continue to rig the Large MAWC.
- h. AT-4 or SMAW-D rigged inside the Large MAWC.
 - i. The AT-4 or SMAW-D when rigged inside the MAWC will no longer be considered special items of equipment.
 - ii. The AT-4 or the SMAW-D will be rigged inside the Large MAWC with the Jumper's M4 Carbine. The launcher will be placed on top of the FPID, and the M4 Carbine will be rigged underneath.
 - iii. Required materials for rigging:
 - A. Three inch by ten-inch piece of PBHC.
 - B. 1/4" cotton webbing.
 - C. Bubble wrap.
 - iv. AT-4 rigging procedures:
 - A. Place the three inch by ten-inch piece of PBHC inside the adjustable nose cone.
 - B. Size the Large MAWC to the AT-4.
 - C.Secure the hook and pile tape on the adjustable nose cone and tighten both nose cone securing straps.
 - D.Pad and tape any area of the M4 Carbine that will rest against the AT-4 inside the adjustable nose cone.
 - E. Secure the M4 to the PALS webbing with 1/4" cotton webbing.

F. Fold down the FPID and place the aft portion of the launcher inside the adjustable nose cone. Rest the forward portion of the launcher on top of the rifle butt pocket (see Figures 12.16z).





- i. Continue to rig the Large MAWC.
- i. SMAW-D rigging procedures:
 - i. Place the PBHC inside the adjustable nose cone (six-inch x ten inch).
 - ii. Size the Large MAWC to the SMAW-D
 - iii. Secure the hook and pile tape on the adjustable nose cone and tighten both nose cone securing straps.
 - iv. Fully collapse the buttstock of the M4 Carbine
 - v. Pad and tape any area of the M4 that will rest against the AT-4 inside the nose cone.
 - vi. Secure the M4 to the PALS webbing with 1/4" cotton webbing.
 - vii. Fold down the FPID and place the aft portion of the launcher inside the adjustable nose cone. Rest the forward portion of the launcher on top of the rifle butt pocket.
 - viii. Continue to rig the Large MAWC.

12.17 M3 MAAWS / Carl Gustaf 84mm ILLUMINATOR, SMOKE, OR HEAT ROUNDS (SHORT TWIN TUBES) RIGGED ON A JUMP PACK

- 1. Rigged on a jumpable pack.
 - a. When rigging the short twin tubes on the jumpable pack, the rubber container stop must be present IOT prevent the containers from opening.
 - b. Place the short tubes on the top of the jumpable pack and under the top closing flap. Close the closing flap and secure all compression straps on the jumpable pack as tightly as possible.
 - c. Route one turn of single type II or type III nylon cord through the side nylon equipment hangers on the side of the jumpable pack, over the tubes, through the nylon equipment hangers on the other side of the jumpable pack and secure the running ends together as tightly as possible.
 - d. Continue to rig the jumpable pack with the HSPR IAW standard rigging procedures.

12.18 AN/PSS-14 HANDHELD STANDOFF MINE DETECTION SYSTEM (HSTAMIDS)

- 1. General Information. The Handheld Standoff Mine Detector System (HSTAMIDS) is a lightweight, manportable, hand-held, metallic and low-metallic mine detection system designed to detect on and off-road mines.
- 2. Preparation of Equipment and Rigging Procedures.
 - a. Remove HSTAMIDS from transport case
 - b. Remove the retaining strap that secures the folded HSTAMIDS. Extend the HSTAMIDS so the sensor is facing towards the ground.
 - c. Secure a one-foot by one-foot square piece of cellulose wadding, fold it into quarters, and place over the hand control assembly with 100 mph tape (see Figure 12.18a).



Figure 12.18a – Padding and Taping

d. Fold the sensor back onto the hand control assembly and reinstall the retaining strap (see Figure 12.18b).



Figure 12.18b – Padding and Taping

- e. Raise the metal locking strap on the cradle so retaining strap is facing upwards and the smaller portion is resting against the cradle.
- f. Secure metal locking strap from one end of the retaining strap to the other side alongside the cradle with 100 mph tape. Secure the smaller strap in the same manner (see Figure 12.18c).



Figure 12.18c – Taping Metal Locking Strap

g. Fold one-foot by one-foot piece of cellulose wadding/bubble wrap in quarters and place it over the end of the taped cradle assembly to provide adequate padding for impact and secure it with 100 mph tape (see Figure 12.18d).



Figure 12.18d – HSTAMIDS Assembly

- h. Place HSTAMIDS on adequate padding (sleeping bag or cellulose padding of the same length and depth) on the ground. Roll system in the padding to ensure total coverage of the system.
- i. Place the padded system in the bottom of the jumpable pack so the HSTAMIDS paddle cradle is facing towards the bottom and the sensor head is facing up and to the left.
- j. You may need to inset additional padding to provide more shock resistance for the HSTAMIDS.
- k. Roll enough padding around the battery box to cover it and place it in the ammo pouch inside the main compartment with the battery cable facing up and away from the rear of the jumpable pack.
- I. Place padding on top of the sensor head before closing and securing the jumpable pack.
- m. Pad earphones and place in an accessory pouch. Place the test piece in the same pouch as the earphones.
- n. Continue to rig the jumpable pack.

12.19 STINGER MISSILE JUMP PACK

- 1. General Information.
 - a. The SMJP is designed to contain one stinger missile. The jump pack consists of a pack body constructed of 7.25-ounce nylon duck material with 1/4" polyester felt material, nylon side securing straps, a carrying handle, a lowering line extension sling, and a snap shackle and hook with spring opening gate.
 - b. When the SMJP is rigged with missile round, it weighs approximately 38 lbs. has a cross section that varies from five to 11 inches and is 67 inches long. It is secured vertically by the snap shackle and hook with spring opening gate to the left equipment-ring of the parachute harness. To prevent the SMJP from swaying during the Jumper's exit from the aircraft and/or from the opening shock of the parachute, an upper and lower attaching strap are provided. The upper attaching strap is routed around the SMJP and behind the left main lift web directly below the chest strap, while the lower attaching strap is routed through the frame of the authorized jumpable pack, between the Jumper's legs, and around the SMJP and the Jumper's left leg.
 - c. The HPT lowering line is used to lower the SMJP and the authorized jumpable pack. Route the HPTLL ejector snap through the D-ring on the lowering line extension sling on the SMJP, then the ejector snap is attached to the triangle link on the left side of the parachute harness.
 - d. Upon landing, the Jumper can rapidly get to the weapon by pulling the free running ends of the quick releases on the side securing straps of the SMJP.

- 2. Qualifications, Currency, and Limitations.
 - a. Qualifications.
 - i. The Jumper must be at least five feet and eight inches in height.
 - ii. The Jumper must have at least 12 SL jumps from high performance aircraft.
 - iii. The Jumper must make two perfect exits from the right paratroop door of the 34-foot tower, with SMJP.
 - iv. The Jumper must be talked through the five points of performance and lowering procedures, with the SMJP, while in the suspended harness.
 - v. The Jumper must make two T-11 daytime jumps from 1,250 feet AGL before they can jump the SMJP from 1,000 feet AGL.
 - b. Currency.
 - i. The Jumper must jump once every 180 days from a USAF aircraft, with the SMJP. If not, the Jumper must go back through the prescribed training requirements/qualifications outlined in (i)-(v) as stated above. If it has been more than one year since the last exit from a USAF aircraft with the SMJP, it is recommended (not required) the Jumper conduct one daylight jump from 1,250 feet AGL before resuming jumps at 1,000 feet AGL.
 - c. Limitations.
 - i. The SMJP **CANNOT** be jumped from the left paratroop door of USAF aircraft due to the size and bulkiness of the SMJP. With the SMJP on the Jumpers left side, it is more likely the Jumper could bump the left trail edge of the door with the SMJP when exiting the aircraft.
 - ii. The SMJP cannot be jumped from U.S. Army aircraft.
 - iii. When exiting an A-series container from the right paratroop door, no SMJP will be exited on that pass.
 - iv. The SMJP and the MAWC cannot be jumped at the same time. The Jumper's M16A1/A2 Rifle or M4 Carbine will be jumped exposed.
 - v. The SMJP must be jumped from the number one and number two Jumper positions.
 - vi. Only two SMJPs can be jumped, from the right paratroop door, per pass, during mass tactical airborne operations, with a two-second interval between SMJP Jumpers and a two-second interval between the last SMJP Jumper and number one Jumper on the left paratroop door.
 - vii. During proficiency jumps, up to six SMJP may be jumped from the right paratroop door, with a twosecond interval between Jumpers.
- 3. Rigging the Stinger Missile Jump Pack to the Jumper.
 - a. Padding the stinger missile.
 - i. Flip up the sight assembly of the missile. Fold the bubble wrap over itself three to four times. Place the bubble wrap under the sight assembly and flip the sight assembly down onto the cellulose wadding. Firmly press down on the sight assembly to make sure the bubble wrap fills the gap between the sight assembly and the launch tube, and the sight assembly locks in position. Additionally, wrap two to three turns of bubble wrap around the sight assembly and launch tube and secure in place with masking tape.

- ii. Wrap bubble wrap around the aft end of the launch tube to ensure the end cap fits snugly to the launch tube.
- iii. Place the foam shock absorber onto the forward end of the launch tube in the same fashion, ensuring the "lollipop" on the forward cap is positioned in the cut-out portion of the foam shock absorber.
- iv. Tape the foam shock absorbers together using 100 mph tape if available. Masking tape (one or two inches wide) may be used if the other 100 mph tape is not available.
- b. Positioning the Stinger missile.
 - i. The pack body is placed with the felt side of the pack body facing up. Extend all side securing straps.
 - ii. The aft shock absorber (opposite end from the sight assembly) is fitted into the launcher aft end bridle of the pack body.
 - iii. The stinger missile is positioned in the pack body with the sling facing up.
- c. Closing the pack body.
 - i. The pack body is folded around the stinger missile so the flap with the friction adapters is on the outside of the pack body.
 - ii. The five side securing straps are routed through the friction adapters using a quick release fold and are loosely tightened down to ensure the pack body is formed around the Stinger missile. The five side securing straps should be secured with retainer bands or masking tape, one of the two methods but never both.
 - iii. The SMJP is placed up on end so the launcher forward end securing straps are on top. The end straps are routed through the friction adapters opposite of each strap. The pack is held off the ground and shaken to ensure the non-adjustable end strap bridle is taut. The end straps are tightened down all the way. A quick release fold is not used here; they are rolled back on themselves and secured with 1/4" cotton webbing using a single or double looped bow knot.
 - iv. The pack body is positioned on the aft shock absorber. A six-inch x six-inch square block of PBHC is centered and secured across the launcher forward end shock absorber of the stinger missile, using the launcher forward end securing straps. They are routed over the PBHC, through the appropriate friction adapters, and tightened down to form an "X" over the center of the PBHC. The launcher forward end securing straps are secured by rolling them back onto themselves and secured with 1/4" cotton webbing using a single or double looped bow knot. You will then secure a single piece of 1/4" cotton webbing and double it. Form an "X" configuration over the launcher forward end securing straps and on top of the PBHC. Route the 1/4" cotton webbing under the launcher forward end securing strap diagonal across from each other forming an "X" configuration. You will then tighten down on the 1/4" cotton webbing using a single or double loop bow knot.
 - v. Rig the individual weapon exposed IAW paragraph 12-11.
- d. Attaching the SMJP release assembly.
 - i. The hook tape on the release handle is positioned over the pile tape on the pack body. The release handle cables are routed through the cable channels. The upper attaching strap loop is routed over the upper attaching strap grommet. The red attaching loop of the upper attaching strap is routed through the upper attaching strap grommet and the release handle cable is routed through the upper red attaching loop. The same procedure is used to connect the lower attaching strap.
 - ii. The snap shackle and hook with spring opening gate is hooked onto the appropriate O-ring on the pack body. The snap portion is secured to the O-ring with the spring opening gate facing towards

the Jumper. The lower O-ring is for Jumpers between 68 and 70 inches tall and the middle O-ring is for Jumpers 70 to 72 inches tall, and the upper O-ring is for Jumpers 72 inches and taller.

- iii. The JM will JMPI IAW the procedures outlined Chapter 6 and Appendix G from the helmet to the weapon. The Jumper's weapon will be exposed. Inspect exposed weapon to ensure it is rigged as previously described. Ensure the butt stock is up, muzzle is down, carrying handle to the Jumper's front, and the pistol grip is to the rear. With the working hand, place index finger on rear sling swivel. Ensure the rifle sling is securely and directly attached to swivel, with no metal clips or adapters. Trace the 1/4" cotton webbing under left riser to left diagonal back strap one sizing channel above the diagonal back strap keeper, and ensure it is securely tied with a single or double looped bow knot. Now, with index finger of the working hand, trace down the weapon where it is attaches directly to the front swivel. Ensure the muzzle and the front sight post are protected with bubble wrap and masking tape. The next item of equipment for inspection is the reserve parachute.
- 4. Attaching the SMJP to the Jumper.
 - a. The SMJP is the last item attached to the Jumper. At the 20-minute time warning the Safety will attach the SMJP to the Jumper by attaching the snap shackle and hook with spring opening gate to the left equipment ring of the T-11 parachute harness. To do this, release pressure on the snap shackle portion by pulling the release handle lanyard, then lift the pack body up to the equipment ring on the parachute harness. Insert the snap shackle and hook with spring opening gate from bottom to top on the equipment ring and close the snap shackle. Ensure it is the outermost item on the left equipment ring (see Figure 12.19a).



Figure 12.19a – Attaching the SMJP to the Jumper

- b. The ejector snap of the HPT lowering line is routed from bottom to top through the D-ring on the lowering line extension sling, then connected to the triangle link on the Jumper's left side.
- c. On the T-11 parachute harness, the upper tie-down tape will be routed from front to rear / top to bottom through the left D-ring. It is then routed around the SMJP and through the adjusting buckle, tightened as much as possible (VERY TIGHT), and a half hitch is incorporated tight against the adjusting buckle.
- d. The lower attaching strap is routed through the frame of the authorized jumpable pack, between the Jumper's legs, around the SMJP, and through the adjusting buckle, tightened as much as possible (VERY TIGHT), and a half hitch is incorporated tight against the adjusting buckle.
- e. Attach a piece of 1/4" cotton webbing approximately three feet in length to the release handle of the HSPR and to the carrying handle of the SMJP (see Figure 12.19b). Tie in both places with non-slip knots. Then secure the excess.

The lower attachment strap must always be used instead of the adjustable leg strap on the HSPR.



Figure 12.19b – Properly Rigged SMJP

- f. The following is a checklist of items to be inspected by the Safety after attaching the SMJP:
 - i. HPT lowering line properly routed from bottom to top through the lowering line extension sling.
 - ii. Lowering line extension sling is properly routed from the top of the SMJP to the HPT securing point.
 - iii. SMJP rigged properly with all straps secured tightly.
 - iv. Ejector snap on the HPT lowering line secured to the triangle link with the opening gate facing towards the Jumper.
 - v. Snap shackle and hook with spring opening gate secured to the proper O-ring on the SMJP to prevent the SMJP from dragging on the floor of the aircraft.
 - vi. The SMJP will be inspected prior to packing to ensure no part of the foam shock absorbers, or the outside of the pack body is damaged. If the pack body is torn/excessively worn, or any textile component missing; the SMJP will not be packed until the item is repaired by a qualified Parachute Rigger (MOS 92R). Any foam shock absorber that is torn or otherwise damaged will be replaced prior to packing.
 - vii. Live stinger missiles will be carefully inspected after the jump and prior to firing to ensure no visible damage has occurred. No live Stinger missiles will be jumped more than once.
 - viii. 1/4" cotton webbing routed properly and tied in a non-slip knot in both places.
- 5. Individual Jump Procedures.
 - a. The SMJP is jumped with a front mounted authorized jumpable pack.
 - b. At the 20-minute time warning, one designated Safety will attach the SMJP to the Jumper and inspect it.
 - c. To release the SMJP on the HPT lowering line, the Jumper does the following:
 - i. Looks to see that the area below, left, right, front and rear are clear, at about approximately 200 feet AGL activates the release handle assembly on the SMJP. The carrying handle of the SMJP has a three-foot piece of 1/4" cotton webbing connected to it and to the release handle of the HSPR.
 - ii. Once the SMJP is lowered, it will pull the 1/4" cotton webbing and activate the release handle on the HSPR and lower the authorized jumpable pack.
 - iii. The SMJP will be suspended approximately four feet below the authorized jumpable pack.

d. Stinger missile components (Identification Friend or Foe [IFF], Battery Coolant Unit [BCU], and separable Grip Stock). The separable stinger components (IFF, BCU and separable Grip Stock) are individually wrapped in bubble wrap and packed in the main compartment of the authorized jumpable pack. The components must remain in the authorized jumpable pack during the jump.

When jumping a live Stinger Missile the polyurethane shock absorbers and PBHC must be in place and securely fastened.

12.20 GENERAL INFORMATION FOR A-SERIES CONTAINERS

- 1. Restrictions and Limitations.
 - a. No more than two A-series container should be exited from each paratroop door, for a maximum of four A- series containers per aircraft.
 - b. On an operation involving more than three aircraft, A-series containers will only be exited from the first three aircraft in an offset trail formation. If the formation is a trail formation, A-series containers will only be exited from the first aircraft.
 - c. Regardless of the type of operation being conducted, units are highly encouraged to exit A-series containers in order to maximize training.
 - d. A-series containers will be exited on the first pass only. No A-series containers will be exited under AWADS/IMC conditions during peacetime.
 - e. When rigged, the A-series container must meet a minimum weight of 11 lbs. per square foot for the paratroop door, 28 lbs per square foot for the ramp.
- 2. General Information Pertaining to all A-series Containers.
 - a. Prior to rigging A-series containers, read all related references, especially TM 4-48.03 *Airdrop of Supplies, and Equipment: Rigging Containers*.
 - b. Build a dummy A-series container relative in size and weight to actual container being used; require all members of the JM team, as well as the number one Jumper, to rehearse with it in the mock door.
 - c. Ensure the USAF is aware that A-series containers will be exited from their aircraft during your airborne operation.
 - d. Attach chemlights to the A-series container for nighttime operations. Do not activate the chemlight until the 20-minute time warning.
 - e. The number one Jumper for each paratroop door that will exit an A-series container must be JM qualified but does not have to be current and must have T-11R parachute tuck tab inserts.
- 3. Authorized parachute systems for A-series containers:
 - a. T-10 modified cargo parachute:
 - i. Minimum: 90 pounds (not including the weight of the parachute).
 - ii. Maximum: 500 pounds (recommended 350 pounds).
 - b. 68-Inch Pilot Parachute:
 - i. Minimum: 30 lbs (one 68-Inch Pilot Parachute not including the weight of the parachute).

- ii. 51 lbs (Three 68-Inch Pilot Parachutes).
- iii. Maximum: 50 lbs (one 68-Inch Pilot Parachute).
- iv. 200 lbs (three 68-Inch Parachutes).
- c. Low-Cost Low Altitude Parachute (LCLA).
 - i. The Cross Parachute; minimum: 80 pounds; maximum: 200 pounds.
 - ii. The Double Cross Parachute; minimum: 201 pounds; maximum: 400 pounds.
 - iii. The Triple Cross Parachute; minimum: 401 pounds; maximum: 600 pounds.
 - iv. The LCLA 24-foot diameter Cargo; minimum: 80 pounds; maximum: 300 pounds.
 - v. The LCLA 24-foot diameter Cargo; minimum: 301 pounds; maximum: 400 pounds.
- 4. Items placed inside of A-series containers must be padded and taped to prevent metal to metal contact and to protect from damage. This includes all hinges and latches on ammunition crates.
- 5. A-series containers are positioned so the cargo parachute is on top or faces the center aircraft. All dimensions are measured in relation to how the A-series container stands in the paratroop door. The maximum dimensions of A-series containers are as follows: 30 inches wide, 66 inches high and 48 inches deep, to include the cargo parachute. The only exceptions to the maximum dimensions are the two and four Stinger missile weapons system A-series containers. The maximum dimensions for those two A-series containers are as follows:
 - a. Two Stinger missile weapon systems: 28 inches wide, 69 inches high, and 24 inches deep, to include the cargo parachute.
 - b. Four Stinger missile weapon systems: 28 inches wide, 69 inches high, and 49 inches deep, to include the cargo parachute.
- A Load Data Card must also be present on the outside of all A-series containers. The load data card is a five inch by eight-inch card with the following information: unit, chalk, contents and gross weight (see Figure 12.20a). The gross weight on the Load Data Card will include the weight of the container and the cargo parachute.

UNIT:	
HALK:	
CONTENTS:	
GROSS WEIGHT:	
EIGHT:	

Figure 12.20a – Load Data Card

- 7. If hazardous material is rigged inside the A-series container, then a Shipper's Declaration for Dangerous Goods (SDDG) form must be attached to the PAX manifest for that aircraft.
- 8. Markings. A-series containers will be marked with contents, panel markers and chemlights. A-series containers will have the class of supply and contents listed on two sides. Panel markers will be placed on the remaining sides for daytime recognition. One chemlight will be attached to the top of the load, designating by color, which unit owns the A-series container.
- 9. Ensure the A-series container goes through the out-load process for loading on the aircraft. Units may not be authorized to carry A-series containers onboard the aircraft unless prior approval has been coordinated through the Air Shop and USAF.

12.21 A-21 CARGO BAG

- 1. Major Components.
 - a. Canvas cover.
 - b. Sling assembly with scuff pad.
 - c. O-ring straps
 - d. Quick release assembly. The quick release assembly has three safety features, they are:
 - i. Safety fork and lanyard.
 - ii. Turn to unlock.
 - iii. Strike/Press to release.
- 2. Rigging the A-21 Cargo Bag.
 - a. To begin rigging the A-21 cargo bag, lay out the canvas cover so the eight permanently sewn strap keepers are facing skyward. Attach the sling assembly with scuff pad attached to the canvas cover by routing the main strap and the four side securing straps through the permanently sewn strap keepers (see Figure 12.21b). Prior to attaching the sling assembly with scuff pad attached, ensure the main strap is properly routed through the large cut-away portions of the V-rings (see Figure 12.21a). When attaching the sling assembly with scuff pad portion is facing skyward. Once this has been completed, turn the canvas cover over and remove all twists from the main strap and the side securing straps.



Figure 12.21a – Routing the Main Cargo Strap through the V-ring

b. Center a precut piece of PBHC directly over the words, "center load here." Ensure you reference TM 4-48.03 for the amount, if any, of PBHC needed. Place the load on top of the PBHC. If there are any metal components to the load, they must be padded with bubble wrap and taped with 100 mph tape. Fold over the sides of the canvas cover covering the load. If the folded portion of the canvas cover extends past the top of the load, remove the main strap from the upper permanently sewn strap keeper, and fold over the excess portion of the canvas cover.



Figure 12.21b – Routing the Cargo Strap through the Strap Keeper

c. Place both of the O-ring straps on top of the load. Ensure the D-rings are facing towards each other. Additionally, ensure the thick-lipped portion floating metal bar on the quick fit adapter with thick lipped floating metal bar, is facing away from the load. Route the main strap through the quick fit adapter with thick lipped floating metal bar and remove the slack.

- d. Next, incorporate the quick release assembly (see Figure 12.21c). To set up the quick release assembly, turn the "turn to unlock" in a counterclockwise direction until you hear a distinct metallic click. Insert the safety fork and lanyard. Place the "turn to unlock" dial in the palm of either hand. Route it from bottom to top through one of the four-inch steel rod rings on the ring strap group. Rotate the quick release assembly a quarter turn and place it on the center of the load. When attaching the three remaining securing straps to the quick release assembly, ensure the thick-lipped portion of the floating metal bar on the quick fit adapter with thick lipped floating metal bar is facing away from the load. Tighten the main strap ensuring the quick release assembly stays centered on the load.
- e. Secure each side-securing strap to the appropriate quick fit adapter with thick lipped floating metal bar. Prior to tightening them, lift up the D-rings of the ring strap group so they don't get secured under the quick release assembly. Tighten the side securing straps by working diagonally across from each other. When completely tightened, the quick fit adapter with thick lipped floating metal bar should be on top of the load or on the side of the load. Roll the free running ends of the main strap and the four side securing straps, hand over hand back toward the load. Secure them in place with 1/4" cotton webbing (see Figure 12.21c).



Figure 12.21c – A-21 Cargo Bag with Quick Release Assembly Attached

f. Attach the cargo parachute, the load data card, chemlights, and all required markings to the outside of the load IAW rigging procedures for that parachute system.

12.22 A-7A CARGO SLING

- 1. Major Components.
 - a. Four A-7A cargo straps.
 - b. Four D-rings.
- 2. Weight Limitations.
 - a. Weight limitations vary on the A-7A cargo sling, depending on the A-7A strap configuration utilized. The weight limitations (which include the weight of the T-10 modified cargo parachute) are:
 - i. Two A-7A Cargo Straps and two D-rings: 90-300 pounds.
 - ii. Three A-7A Cargo Straps and two D-rings: 251-400 pounds.
 - iii. Four A-7A Cargo Straps and two D-rings: 251-500 pounds.
- 3. Rigging the A-7A Cargo Sling (three strap load).
 - a. To begin rigging the A-7A cargo sling, lay out one of the A-7A straps to be used as the main strap. Ensure the thick lipped portion of the floating metal bar on the quick fit adapter with thick lipped floating metal bar is facing toward the ground. Position the first A-7A strap on top of the main strap approximately 16 inches from the quick fit adapter with thick lipped floating metal bar. Place the second A-7A strap on top of the main strap approximately 12 inches from the first one.
 - b. Secure an appropriately sized piece of PBHC and place it on top of all three A-7A straps. Ensure you reference TM 4-48.03 for the amount of PBHC needed. Place the load on top of the PBHC. If there are any metal components to the load, they must be padded with bubble wrap and taped with 100 mph tape.

- c. Route the main strap over the load. If there are any exposed carrying handles on the load, route the main strap through them. Secure two D-rings. Route the main strap through the small cut-away portion of the D- rings, then secures it to the quick fit adapter with thick lipped floating metal bar.
- d. Route both side securing straps over the load. Route both side securing straps through the small cutaway portion of the D-ring, from outside to inside or inside to outside, as long as both are the same. Secure the side securing straps to the appropriate quick fit adapter with thick lipped floating metal bar. Roll the excess hand under hand toward the load. Secure in place with 1/4" cotton webbing tied with a surgeon's knot and locking knot (see Figure 12.22a).



Figure 12.22a – A-7A Cargo Sling Assembled

e. Attach the cargo parachute, the load data card, chemlights, and all required markings to the outside of the load IAW the procedures for that parachute system.

12.23 T-10 MODIFIED CARGO PARACHUTE

- 1. Attaching the T-10 Modified Cargo Parachute.
- Place the T-10 modified cargo parachute on top of the load. Attach the G-13 clevis to on each riser to the D-rings of the A-7A cargo sling/A-21 cargo bag. The rounded portion of the G-13 clevis should be in contact with the D-ring. The clevis pin is inserted through the riser and secured with the clevis pin retaining pin.
 Bend the retaining pin to ensure they do not come loose. Both risers will be attached in the same manner (see Figure 12.23a).



Figure 12.-23a – Securing the G-13 Clevis

b. Place the T-10 modified cargo parachute on top of the load and tuck the risers underneath. Ensure the risers face the top of the load (top of the load is identified by the friction adapter of the main strap). Begin securing the T-10 modified cargo parachute to the load by procuring a length of 1/4" cotton webbing between 36- 50 inches long. Secure one end of the 1/4" cotton webbing to the D-ring, main strap, side strap or (O-ring if using an A-21 cargo bag) located closest to the break cord attaching loop (the part of the USL that is girth hitched to the deployment bag) using a non-slipknot.

c. Route the 1/4" cotton webbing behind the break cord attaching loop then through the break cord tie behind the break cord attaching loop. (Figure 12.23b, Figure 12.23c, Figure 12.23d and Figure 12.23e).



Figure 12.23b – Routing 1/4" cotton webbing



Figure 12.23c – Routing 1/4" cotton webbing



Figure 12.23d – Left to Right



Figure 12.23e - Right to Left

d. Route the free running end of 1/4" cotton webbing through the pack opening loop if present (Figure 12.23f).



Figure 12.23f – Routing 1/4" cotton webbing through pack opening loop

e. If the pack opening loop is not present, remove the USL from the first two stows (Figure 12.23g) and form a 3 inch loop in the USL (Figure 12.23h).



Figure 12.23g – First two stows of USL



Figure 12.23h – 3 inch loop in USL

f. Route the free running end of the 1/4" cotton webbing through the 3 inch loop you created (Figure 12.23i).



Figure 12.23i – Routing 1/4" cotton webbing through the 3 inch loop

g. Continue to route the free running end of the 1/4" cotton webbing under the USL. Approximately half-way down the T-10 modified cargo parachute, tie a loop in the 1/4" cotton webbing to be used for a trucker's hitch (Figure 12.23j).



Figure 12-23j – Loop created in 1/4" cotton webbing for trucker's hitch

h. Route the free running end of the 1/4" cotton webbing under the remainder of the USL, through the D-ring, around the main strap, side strap or (O-ring if using an A-21 cargo bag) (Figure 12.23k).



Figure 12.23k – Routing 1/4" cotton webbing around D-ring

i. Route the free running end of the 1/4" cotton webbing through the loop you created half-way down in the 1/4" cotton webbing, ensuring the 1/4" cotton webbing is still under the USL (Figure 12.23I).



Figure 12.23I – Routing 1/4" cotton webbing through loop in the 1/4" cotton webbing

j. Tighten down 1/4" cotton webbing until the T-10 modified cargo parachute is held snug against the load. Once tightened down, tie a non-slip knot against the loop in the 1/4" cotton webbing or secure the free running end to the D-ring utilizing a non-slip knot (Figure 12.23m). Ensure the risers or USL have not been incorporated into any part of the 1/4" cotton webbing.



Figure 12.23m – Securing free running end of 1/4" cotton webbing with non-slip knot

12.24 68-INCH PILOT PARARCHUTE

1. General Information.

- a. Parachute weighs approximately two pounds.
- b. When packed and ready for use it is approximately seven inches wide, 11 inches long, and two and a half inches deep.

- c. Capable of supporting and delivering between 30 pounds to a maximum of 50 pounds. When used in a group of three parachutes capable of supporting and delivering between 51 pounds to a maximum of 200 lbs.
- d. Break away SLs may be used when exiting A-series containers from U.S. Army aircraft. Requests must be made to the PRF at least 72 hours in advance.
- 2. Inspection.
 - a. Total number of 68-inch pilot parachute(s) with one G-13 clevis (clevis, clevis pin, and clevis retaining pin) for planned load.
 - b. No holes, rips, tears, or exposed canopy.
 - c. Sufficient D-rings for load. One D-ring for one 68-inch pilot parachute or two D-rings for three 68-inch pilot parachute.
 - d. Sufficient length of 1/4" cotton webbing.
 - e. Sufficient amount of masking tape.
 - f. Cotton thread "String ticket" 8/7 (NSN 8310-00-917-3945).
- 3. Attaching the Three 68-Inch Pilot Parachutes Option.
 - a. Route an A-7A cargo strap through both D-rings and secure it back to itself so it rests 24 inches above the load at its midpoint and the end of the A-7A cargo strap with the quick fit adapter with thick lipped floating metal bar is facing down towards the load. Ensure the quick fit adapter with thick lipped floating metal bar is approximately centered between the apex of the A-7A cargo strap and the D-ring.
 - b. Use one-inch wide masking tape to create a three-inch loop in the apex of the A-7A cargo strap (see Figure 12.24a).
 - c. Tape the quick fit adapter with thick lipped floating metal bar and roll the excess of the A-7A cargo strap hand under hand so as to not create a ramp like effect and secure it back to itself with 1/4" cotton webbing (see Figure 12.24a).
 - d. Tape the A-7A cargo strap approximately two inches above both D-rings (see Figure 12.24a).



Figure 12.24a – A7-A Cargo Strap Prepared for the 68-Inch Pilot Parachute(s)

e. Route another A-7A cargo strap through the three-inch loop you created, then through the L-bar connector links of all three 68-inch pilot parachutes and secure it back through the quick fit adapter with thick lipped floating metal bar and tighten the A-7A cargo strap to a length of 7 feet (see Figure 12.24b).



Figure 12.24b – Securing the 68-Inch Pilot Parachute(s) to the A7-A Cargo Strap

- f. Tape the quick fit adapter with thick lipped floating metal bar.
- g. Fold and tape the excess of the A-7A cargo strap. Tape the plies of the A-7A cargo strap together approximately every 12-18 inches.
- h. Fold the A-7A cargo straps and tie them to a convenient place on top of the load with two pieces of string ticket 8/7.
- i. Tie the three parachutes together in a pyramid using the parachute attaching loops with string ticket 8/7.
- j. Tape the SLs together.
- k. Tie all three parachutes to a convenient place on top of the load with four pieces of string ticket 8/7.
- I. Tie the SLs to a convenient place on top of the load with string ticket 8/7 (see Figure 12.24c).



Figure 12.24c – Properly Rigged 68-Inch Pilot Parachutes with the A7-A Cargo Sling

- m. All three G-13 clevises will be secured to the anchor line cable.
- 4. Attaching the One 68-inch Pilot Parachute Option.
 - a. Route an A-7A cargo strap through the D-ring, through the L-bar connector link of the 68-inch pilot parachute and secure it back to itself so it rests 24 inches above the load at its midpoint and the end of the A-7A cargo strap with the quick fit adapter with thick lipped floating metal bar is facing down towards the load. Ensure the quick fit adapter with thick lipped floating metal bar is approximately centered between the apex of the A-7A cargo strap and the D-ring.
 - b. Use one-inch wide masking tape to create a three-inch loop in the apex of the A-7A cargo strap.

- c. Tape the quick fit adapter with thick lipped floating metal bar and roll the excess of the A-7A cargo strap hand under hand so as to not create a ramp like effect and secure it back to itself with 1/4" cotton webbing.
- d. Tape the A-7A cargo strap approximately two inches above the D-ring.
- e. Tie the 68-inch pilot parachute to a convenient place on top of the load with four pieces of string ticket 8/7.
- f. Fold the SL and secure it to the load with retainer bands.

12.25 TYPICAL A-SERIES LOADS

- 1. The following is an example of how to rig a typical load of combat equipment consisting of sensitive items inside of an A-series container. Not all loads will be rigged in the same manner, however, this may be used as a general outline as how to safely and efficiently deliver your unit's equipment to the DZ.
- 2. Rigging the M252 81mm Mortar Weapons System in an A-21 Cargo Bag.
 - a. Prepare the baseplate by placing a strip of bubble wrap around the socket and secure it in place with two strips of masking tape. This will prevent it from shifting or grinding during its descent.
 - b. Prepare the bipod assembly by locking the long leg down at a slight angle. Rotate all elevation and traversing knobs inward to form the smallest silhouette possible. Decrease the elevation all the way and then rotate the knob back a quarter turn to protect its internal components. Open the yolk of the collar and lay two strips of cellulose wading between the back of the shocks and the traverse assembly, preventing any metal-to-metal contact (see Figure 12.25a). Then tape it in place.



Figure 12-25a – Padding the Bipod Assembly

- c. Cut a minimum of five sheets of PBHC down to 66 inches by 30 inches. More sheets may be used to provide additional protection to the contents.
- d. Arrange the cannon, bipod assembly, and baseplate on top of one sheet of PBHC so the weight of the equipment will be as evenly distributed as possible, there will be no metal to metal contact, and there is at least a two-inch buffer around all of the items.
- e. Trace the cannon, bipod assembly, and baseplate on the PBHC, then cut the tracing out in so the equipment will fit snugly between the cuts.
- f. Place another sheet of PBHC on top of the previous sheet and apply slight pressure. Then remove the sheet and carve out around the indentations. Place the sheet back on top and redo this process until both sheets of PBHC are flush with each other (see Figure 12-25b).


Figure 12.25b – Cut-out and Placement of Weapon System

- g. Fill in any gaps or voids in the cut-out with bubble wrap to prevent shifting and reinforce the PBHC at any weak areas with 100 mph tape.
- h. Finally, sandwich the cut-out between the remaining sheets of PBHC. To secure all of the sheets together, tightly wrap the entire load both horizontally and vertically with masking tape. Do not use 100 mph tape (see Figure 12.25c).



Figure 12.25c – Taping

- 3. Secure the load in the A-21 Cargo Bag as previously mentioned in this chapter.
- 4. This rigging method can be modified to spread the items of equipment across the different sheets of PBHC (i.e., the middle layers of the bundle will contain only one item each) or it can be used to double up two 81mm mortar weapons systems within the same bundle.
- 5. This method can be used for other similar sensitive items such as communications equipment, 60mm Mortar Weapons Systems, etc.

The rigging procedures outlined above for the M252 81MM mortar generally fall short of 11 pounds per square foot requirement. Additional weight may be needed to be added to ensure your mortar system is not scratched.

12.26 CASTER ASSISTED A-SERIES DELIVERY SYSTEM

1. The Caster Assisted A-Series Delivery System (CAADS) is a tool that is designed to reduce the exertion required, as well as the time needed, to exit multiple door bundles from a paratroop door (see figure 12.26a).



Figure 12.26a – CAADS

- 2. General Information
 - a. The CAADS consists of a custom dolly, seven A-7A cargo straps, four D-rings, a sufficient number of protective materials to protect the load, and a low-velocity cargo parachute that is approved for the A-7A Cargo Sling. The use of CAADS is governed by Flight Crew Information File (FCIF) 18-06-02 as well as the Interim CAADS Chapter of TM 4-48.03. As the procedures use an abbreviated format, it is recommended that an experienced parachute rigger supervise the construction of CAADS platforms.
 - b. The minimum weight, without a cargo parachute, is 200 lbs while the maximum weight is 500 lbs. The maximum dimensions are 30" wide X 32" deep X 66" tall, and the height must be the largest dimension. The height must include the dolly.
 - c. CAADS Loading: Load the CAADS per the following:
 - i. C-17: 5ft USL extension must be present. 2 CAADS may be exited per door, 1 forward and 1 aft of the door or both forward of the door.
 - ii. C-130J-30 (Stretch): 3x CAADS per paratroop door; 1x aft and 2x forward of each door depending on seating configuration requirements.
 - iii. C-130H/C-130J (Stubby): 2x CAADS per paratroop door; 2x forward of each door depending on seating configuration requirement.
- 3. Rigging Instructions
 - a. Have a competent authority construct the dolly in accordance with the schematics in the interim manual. The rear of the dolly is the side where the floor lock is attached.
 - b. Route five A-7A cargo straps under the dolly, between the type X nylon webbing and the plywood (see Figure 12-26b). Three friction adapters should be on the right side of the dolly, while two should be on the front side. Therefore, three free running ends should be on the left side, while two free running ends should be on the rear side (see Figure 12-26c).





Figure 12.26b – A-7A Routing

Figure 12.26c – Dolly with A-7A Routing

- c. Cut one piece of PBHC to fit the top of the dolly.
- d. Position the cargo on top of the PBHC. In constructing the load, consider how the weight of the load (and the weight of the dolly) will affect its disposition during descent. The heaviest items should be evenly spaced in the front of the load so that the load will be heaviest on the bottom during descent (see Figure 12-26d). In placing the load, adhere to the guidance published for A-7A Cargo Slings in TM 4-48.03, or for ammunition loads, use TM 4-48.16.



- e. PBHC must be cut and placed to fit on all four sides of the load as well as the top. Tape the edges of the PBHC where it comes into contact with the A-7A cargo straps.
- f. Route the three left-to-right straps over the load and ensure that the friction adapters, once tightened, are centered on the top of the load. S-fold or roll the excess webbing and secure it with 1/4" cotton webbing using a surgeon's knot and locking knot.
- g. Place two D-rings each on the two A-7A cargo straps that are routed along the rear side of the load, and then secure the free running ends to the friction adapters. The friction adapters, once tightened, are centered on the front of the load, along with the rolled or S-folded free running ends, which will be secured with 1/4" cotton webbing in a surgeon's knot and locking knot (see Figure 12.26e).
- h. Now secure two A-7A cargo straps to wrap around the circumference of the load, parallel with the ground. Ensure that both straps are routed through their appropriate D-rings to create a mirrored effect. Secure the straps to their friction adapters on the front side of the load and roll or S-fold the free running ends, securing them with 1/4" cotton webbing with a surgeon's knot and locking knot. The free running ends must also be on the front side of the load (see Figure 12.26e).



Figure 12.26e – Front of CAADS

- 4. Installation of the cargo parachute.
 - a. Lay the configured load on the front side so that the D-rings are facing skyward. This is done to be able to position the cargo parachute without tension.
 - b. Position the cargo parachute on the rear side of the load with the break cord attaching loop facing towards the top of the load and the risers facing the bottom of the load.
 - c. Secure the appropriate riser to the top left D-ring and bend the cotter pin.
 - d. Secure the appropriate riser to the bottom right D-ring and bend the cotter pin.
 - e. Route a 24" piece of 1/4" cotton webbing through the break cord attaching loop and secure it around the two A-7A cargo straps on top of the load. Secure it with a surgeon's knot and locking knot. This is meant to serve as a load-bearing support for the cargo parachute as it is suspended on the side of the load.
 - f. Tie a sufficient length of 1/4" cotton webbing to a convenient point on top of the load (see Figure 12.26f). Route the 1/4" cotton webbing through the break cord attaching loop, through the pack opening loop on the universal static line, under the lengths of the universal static line, and around the lateral A-7A cargo strap beneath the cargo parachute (see Figure 12.26g). Form a trucker's hitch knot to secure the cargo parachute. This is meant to keep the cargo parachute secured in place to the load until it is exited.



Figure 12.26f – Load Bearing Support

g. Tie one end of a sufficient length of 1/4" cotton webbing to the upper left D-ring with three alternating half hitches. Route it over the top of the cargo parachute, but under the universal static line, forming a trucker's hitch at the midway point. Route the 1/4" cotton webbing through the upper right D-ring then back through the trucker's hitch and secure it with three alternating half hitches (see Figure 12.26g). This is meant to limit lateral sway as the cargo parachute is suspended on the side of the load.





Figure 12.26g – 1/4" Cotton Webbing Routing

Figure 12.26h – Trucker's Hitch

h. Tie one end of a sufficient length of 1/4" cotton webbing to the bottom left D-ring with three alternating half hitches. Route it through both connector link tie loops, then secure it to the bottom right D-ring with three alternating half hitches (see Figure 12.26i). This supports the weight of the cargo parachute.



Figure 12.26i – Load Bearing Support

- i. Secure a 24" piece of 1/4" cotton webbing (one turn) to the upper A-7A cargo strap on the rear left corner with a surgeon's knot and locking knot (see Figure 12.26j).
- j. Secure the static line at the girth hitch of the five-foot universal static line extension with a surgeon's knot and locking knot (see Figure 12.26j).



Figure 12.26j – USL Girth Hitch Tie-Down

k. Girth hitch three retainer bands around the A-7A cargo straps (see Figure 12.26k). For CAADS being exited from the left paratroop door, the five-foot universal static line extension should be routed along the left of the cargo parachute. For the right paratroop door, the five-foot universal static line extension should be routed along the right side of the cargo parachute.

I. Route the five-foot universal static line extension through the retainer bands (see Figure 12-26k).



Figure 1.-26k – 5 FT. USL Extension Routing

12.27 ADVANCED EMERGENCY BAILOUT PARACHUTE

1. The Advanced Emergency Bailout Parachute (AEBP). The AEBP is a highly portable system made from a low-porosity material that is vacuum sealed to protect the main canopy from physical and environmental hazards. The canopy assembly consists of a main canopy, cross connector straps, slider, diaper, steering handles, upper risers, and suspension lines made of Spectra material. The following includes capabilities and equipment data for the AEBP.



Figure 12.27a – AEBP

- a. Minimum Operational Altitude 585 feet AGL.
- b. Max Operational Altitude 14,000 feet MSL.
- c. Total Jumper Weight 300 pounds.
- d. Max Exit Speed 130 KIAS.
- e. System Weight 17 pounds.
- f. System Height 18.5 inches.
- g. System Width 14.75 inches.
- h. System Thickness: 3.0 inches.
- i. System Life 14 years.
- j. System Repack Cycle 5.5 years.
- k. System Inspection Cycle 1 year.
- I. Canopy.
 - i. Shape Extended Skirt, Tri-Vent.
 - ii. Diameter 26 feet.
 - iii. Rate of Descent 24 feet per second.
 - iv. Color 36% Orange, 36% White, 14% Sand, 14% NATO Green.
 - v. Turn Time 360 degrees in 18 seconds.
- m. Theory of operation.
 - i. The AEBP is a lightweight emergency parachute with a 26-foot extended skirt canopy. The

canopy is made from low-porosity material that is vacuum sealed to protect the main canopy from physical and environmental hazards. The canopy assembly consists of a main canopy, cross connector straps, a slider, diaper, steering handles, upper risers, and suspension lines made of Spectra material. The container is made up of Cordura material and is used to store the sealed canopy assembly and pilot parachute. The harness is used for securing and supporting the airborne Soldier.

- ii. The Jumper manually pulls the ripcord handle, which removes the ripcord pin from the closing loop and initiates the parachute deployment process. This allows the spring- loaded pilot parachute to open the flaps and spring out into the air current.
- iii. As the Jumper falls away from the inflated pilot parachute, the pilot parachute bridle cord pulls on the sealed canopy bridle cords. This opens the vacuum-sealed bag, extracting the suspension lines from the deployment bag, followed by the main canopy. Upon main canopy deployment, a slider attached to the suspension lines will slide down the suspension lines toward the Jumper to reduce canopy opening shock. The main canopy will inflate.
- iv. During descent, the Jumper can use the steering handles located on the back side of the rear risers to maneuver the parachute to a desired landing site.
- v. Upon landing, the Jumper doffs the AEBP System by releasing the three quick ejector snaps (chest and two leg straps).
- n. Routine inspection. A routine inspection is a visual check performed to ascertain the serviceability of all visible components of a parachute that is packed or rigged for use. The inspection will be made on all components that can be inspected without opening the parachute pack. Prior to issue, a parachute rigger will administer this inspection. A routine inspection will be conducted by the jumpmaster prior to donning the AEBP. Any failure of the inspection and the AEBP must be turned back into the PRF.
 - i. Lift the outer top cover flap (Figure 12.27b). Inspect for presence of tacking securing the tuck flap seam to the top closing flap seam on both sides (Figure 12.26b). Ensure the tuck flaps are not tacked to the bottom parachute flap. Check that the tuck flaps are properly secured under the bottom closing flap and are not exposed.



Figure 12.27b – Outer Tuck Flap and Ripcord Pin

- ii. Check the ripcord pin (Figure 12.27b) to ensure the pin is fully seated on the grommet but that the wider portion of the pin is not on top of the grommet. Inspect pin for sharp edges, burrs, rough spots, corrosion, cracks, and bends.
- iii. Ensure the grommet is properly seated. Inspect grommet for burrs, rough spots, corrosion, cracks, and bends.
- iv. Confirm that the secure tie is present. If the secure tie is not present or is broken, return the AEBP to the issuing rigger facility.
- v. Reseat the outer top cover flap.

- vi. Open the hook and pile cover of the right shoulder flap, then open the inner link protector flap (Figure 12.27c).
- vii. Visually inspect the soft link loops for holes, cuts, fraying, burns, and loose or broken stitching.



Figure 12.27c – Right Shoulder Flap

- viii. Visually inspect the #4 connector link for burrs, cracks, sharp edges, corrosion, broken sealant, and exposed threads. Ensure torque sealant is on the nut and no threads are exposed.
- ix. Close the link protector flap and right shoulder flap hook-and-pile and ensure the hook-and-pile is properly seated.
- x. Check that the front ripcord housing tacking is in place and the color of the lacing and tying tape, is white. Ensure the ferrule at the end of the ripcord cable housing is aligned with the end of the tacking loop.
- xi. Carefully remove the ripcord handle from the ripcord pocket and inspect for burrs, sharp edges, cracks, or bends.
- xii. Ensure the steel swaged ball is located at the end of the ripcord cable and is free from burrs, sharp edges, and cracks (see Figure 12.27d).



Figure 12.27d – Steel Swaged ball and Ripcord Housing Tacking

- xiii. Re-seat the ripcord handle, ensuring the large end is in the ripcord pocket. Ensure chest strap is not routed through ripcord handle; re-route if necessary. Stow the swaged ball in ripcord pocket.
- xiv. Ensure hook and pile tape of the ripcord pocket is secure.

xv. Open the hook and pile cover of the left shoulder flap, then open the inner link protector flap (see Figure 12.27e).



Figure 12.27e – Left Shoulder Flap

- xvi. Inspect the ripcord cable housing for sharp edges, burrs, rough spots, corrosion, cracks, bends, and loose ferrules.
- xvii. Visually inspect the soft link loops for holes, cuts, fraying, burns, and loose or broken stitching.
- xviii. Visually inspect the #4 connector link for burrs, cracks, sharp edges, corrosion, broken sealant, and exposed threads. Ensure torque sealant is on the nut and no threads are exposed.
- xix. Check to see if the rear ripcord housing tacking is present (see Figure 12.27f).



Figure 12.27f – Ripcord Housing Tacking

- xx. Close the link protector flap and left shoulder flap hook and pile and ensure the hook and pile is properly seated.
- xxi. Check for presence of the four tackings securing the comfort pad to the chest strap quick ejector snap (see Figure 12.27g). Ensure knots are secure. Inspect for loose, cracked, or broken stiffener.



Figure 12.27g – Chest Strap Ejector Snap Tacking

- xxii. Inspect the chest strap for loose or broken stitching, holes, burns, contamination, cuts, tears, and fraying.
- xxiii. Inspect the quick ejector snap and quick-fit V-ring on the chest strap for proper operation, proper orientation, and presence of rust, corrosion, burrs, sharp edges, and cracks.
- xxiv. Inspect chest strap webbing retainer for loose or broken stitching, loss of elasticity, cuts, and fraying. If webbing retainer is not present or is not serviceable, replace with a heavy duty retainer band.
- xxv. Inspect the left and right main lift webs for loose or broken stitching, holes, burns, foreign material, cuts, tears, and fraying.
- xxvi. Check the left and right main lift web adjusters and harness links for burrs, cracks, sharp edges, and corrosion.
- xxvii. Inspect the left and right main lift webbing retainers for loose or broken stitching, loss of elasticity, cuts, and fraying. If webbing retainers are not present or are not serviceable, replace with a heavy duty retainer band.
- xxviii. Check for the presence of two tackings that are securing the comfort pads to the left and right leg strap quick ejector snaps. Ensure knots are secure.
- xxix. Inspect the left and right leg straps and saddle for loose or broken stitching, holes, burns, foreign material, cuts, tears, and fraying.
- xxx. Inspect the quick ejector snaps and quick fit V-rings on the left and right leg straps for proper orientation, and presence of rust, corrosion, burrs, sharp edges, and cracks.
- xxxi. Inspect the left and right leg strap webbing retainers for loose or broken stitching, loss of elasticity, cuts, and fraying. If webbing retainers are not present or are not serviceable, replace with a heavy duty retainer band. NOTE: If vacuum loss has occurred, the AEBP is still serviceable for the mission. After the completion of the mission, the AEBP must be repacked.
- xxxii. Check the sealed canopy assembly for firmness (see Figure 12.27h). A soft (pillowed) AEBP indicates the sealed canopy assembly has lost its vacuum.



Figure 12.27h – Canopy Vacuum Sealed

- xxxiii. Conduct an overall visual inspection of the container for seam separation, holes, cuts, tears, frays, burns, foreign material, and deterioration.
- xxxiv. Inspect for presence of Army Parachute Log Record, DA Form 3912 in the upper right corner of the horizontal back strap channel.

• Chapter 13. Combat Jump Techniques

This Chapter describes various techniques and procedures that can be used in combat, but for safety and common sense reasons, will not be used in peacetime training. These options are at the discretion of the Airborne Commander and are not all encompassing.

Leaders, do not abandon proven training techniques and standards just because you are in combat! Do deliberate risk assessment mitigation in all airborne operations, combat or peacetime.

13.1 General Information

- 1. Upon manifesting, ensure that the Commander's tactical cross load and scatter plan is maintained at all costs. Changing chalk positions can greatly affect ground combat power.
- 2. All CE will be inspected and rigged IAW Chapter 12 of this SOP.
 - a. Weapons will be jumped in their appropriate weapons case and can only be authorized to be jumped exposed under the discretion of the Airborne Commander. Exposed weapons will be prepared and rigged IAW Chapter 12 of this SOP.
 - b. All weapons will be jumped in AMBER status (loaded magazines/drums WITHOUT a round chambered). Remind Jumpers that no rounds will be chambered until they are on the ground.
 - c. Tape all grenade spoons to prevent accidental activation during the airborne operation and during landing. If the tactical situation permits, jump hand grenades inside the canister and place them inside the jumpable pack.
 - d. No rounds will be placed in the M320 GLM or the M225A1 cannon until on the ground.
- 3. Carry the minimum amount of equipment to accomplish the mission based off METT-TC and the Airborne Commander's guidance.

Do not let heavy loads exceed the capabilities of your Jumpers or their parachute systems just because you are in combat. Max load for the T-11 ATPS is 400 pounds.

4. Do not tape down anything that you may need to access quickly on the DZ.

13.2 Requirements and Planning Considerations at Departure Airfield

1. Sustained airborne training (SAT). SAT will be conducted with emphasis on the portions that will change based off the Airborne Commander's intent (i.e., modified points of performance based off a lower drop altitude, how will recovery and turn-in be accomplished, towed parachutist procedures, etc.).

Alternative Parachute recovery: Jumpers will only activate one canopy release assembly and as the Jumpers remove the parachute harness they will leave the right connector snap of the reserve parachute secured to the parachute harness. The Jumpers with either leave the parachute/parachute harness in place or place all items inside the UPRB.

- 2. Mock door training.
 - a. Conduct a complete and thorough SERJTE briefing tailoring as needed to reinforce the procedures that will be utilized (i.e., SL control, jump refusals).
 - b. JMs, be prepared that the aircraft may be max loaded based off the commander's intent. Max loads for combat when wearing the T-11/MC-6 series parachute systems and seats in are:
 - i. Up to 72 for the C-130H.
 - ii. Up to 82 for the C-130J-30
 - iii. Up to 100 for the C-17 Globemaster III.
 - c. Brief your Jumpers on the evasive A/C maneuvers and their effects on jump commands and actions in the A/C.
 - d. Discuss and practice all of your contingency plans (i.e., bailout prior to reaching the DZ, receipt of enemy Air Defense Artillery (ADA) including casualty procedures prior to green light, etc.). Exit the mock door exactly how you want to exit the aircraft.
 - e. PJs and AJs jump in the part of the stick where they can land with their assigned unit. This must be thoroughly practiced during mock door training so if the jumping JM must exit in the middle of the stick (per the scatter plan) it does not create confusion with the other Jumpers in the stick.
 - f. Safeties may be provided from non-deploying units and will return to base with the aircraft. However, Safeties may jump and will go into the assembly area with their unit. Safeties should come from the unit that is tactically cross-loaded to land on the trail edge of the DZ. If this is not possible, units must not use critical PAX required to secure the objective as Safeties as they will take longer to reach the assembly area. If Safeties jump, they will be the last Jumpers out with the Safety on the PJ's door being the last out.
 - g. Regardless of the types of parachutes, no ADEPT or any other form of controlled exits will be attempted. MC-6 and T-11 parachutes may be mixed in any order, in any aircraft, day or night.
 - h. Exit interval and speed of Jumpers will be determined by the Airborne Commander after a detailed risk assessment based on the threat and tactical situation prior to the mission. The guidance will be incorporated into all SAT, to include mock door rehearsals.
- 3. Conduct parachute issue as normal. If conducting in-flight rigging, build the pallets based off the guidance in Chapter 9.
- 4. Brief all Jumpers and give a demonstration on the buddy rigging procedures. There are no rigging deviations authorized from training. You will still secure the waistband as normal with its 2-3 finger quick release. The waistband keeps the reserve parachute tight against the Jumper's body and is critical to a proper exit and the ability for the Jumper to take appropriate emergency actions.
- 5. If Safeties are jumping, they will draw a main and reserve parachute for themselves when they draw the extra reserve parachutes and UPRB/AKBs.
- 6. All Jumpers will be JMPI'd completely at the DAF prior to loading (unless you are conducting in-flight rigging).
- 7. You must conduct the aircraft inspection NLT one hour prior to LT. This will ensure there is time to correct any issues with seating arrangements with the Loadmasters.
- 8. All Jumpers will be seated corrected IAW the Commander's tactical cross load.

- 9. After all the Jumpers are seated conduct a detailed JM/Pilot crew brief IAW Chapter 6 and Appendix D of the CAASOP. Discuss all areas and any changes to normal procedures. Thoroughly discuss towed Jumper procedures. Ensure you and the USAF fully understand the Commander's guidance concerning how to handle towed Jumpers and complies with their guidance. In combat there are two ways to deal with towed Jumpers; they can immediately be cut (regardless of how they are being towed) and exiting continues or, even if identified, a towed parachutist remains towed while exiting continues and are attended to after all Jumpers have exited.
- 10. During combat operations, door bundles or A-series containers can be exited from any aircraft. Ensure you coordinate with the Loadmasters so they will help you get them into position. Commanders should only exit one door bundle per paratroop door, per aircraft, to minimize loss of DZ for Jumpers. Door bundles should be exited immediately or just before the green light; Jumpers will immediately follow them out without conducting a towed bundle check.

13.3 Requirements and Planning Considerations during Flight

- Drop altitude will be negotiated between the Airborne Commander and the Airlift Mission Commander. The JTF Commander makes the final decision. For planning purposes, combat jump altitude is 650 feet AGL. Minimum combat jump altitude is 550 feet for the T-11 ATPS.
- 2. The PIs can be adjusted to support the ground tactical plan. All Paratroopers need to get out the paratroop door on the first pass. Do not plan on racetrack operations for a second pass in contested air space!
- 3. The minimum essential HE loads should precede the PAX drop and other important HE should follow the assault PAX drop as soon as possible. We cannot fight without our heavy weapons, vehicles, and ammunition bundles. Peacetime safety rules which require one-hour separations between PAX, and HE do not apply for a combat jump.
- 4. All Leaders and JMs must be familiar with the flight route and aerial checkpoints. JMs and Leaders will remain awake and always alert and know their location along the air route in the event you have to bailout along the way.
- 5. After the flight crosses into enemy territory and/or approaches enemy air defense missile/gun systems, JMs should stand up and hook up the troops. If you have a long way to go after you have hooked up and made your equipment checks, sit the Jumpers on the floor, re-tighten SLs after they stand up again. In this way, if an aircraft is hit by enemy air defensive fires the Jumpers can immediately exit. JMs must adjust their timeline to ensure that in-flight rigging and partial rigging is complete by the time the aircraft crosses into enemy territory.
- 6. At the 20-minute time warning (have Loadmasters give it to you early, don't cut yourself short), have the Safeties attach all special items of CE and position door bundles. Special items of equipment can be positioned anywhere in the stick to best support the tactical cross-load.
- 7. At the 10-minute time warning (again have the Loadmasters give it to you early), begin to issue jump commands. Once the Jumpers begin to stand up, have the Safeties work their way to the forward portion of the aircraft assisting Jumpers in standing up and getting the seats out of the way.
- 8. On the command of hook-up, Safeties need to immediately start to inspect USL-Ms, working their way back to the aft portion of the aircraft. As soon as the Safeties inspect all the Jumpers USL-Ms, they must (if jumping) immediately rig up.
- 9. Once the paratroop doors are open and the JMs are doing their paratroop door checks, Safeties will have all Jumpers close in tight reducing all Jumper intervals.
- 10. On the green light, immediately start exiting and do not stop until all Jumpers are out. For example, if a Jumper stalls, (falls, faints, etc.) on the outboard anchor line cable, the JM will immediately begin to exit the

inboard anchor line cable while those around the fallen Jumper help them back to their feet. Once all the inboard Jumpers exit, then the JM will exit the remaining outboard Jumpers.

11. If the Safeties jump, they will be the last to exit. The Safety on the PJ's paratroop door will be last out of the A/C.

13.4 Requirements and Planning Considerations for Duties after Flight.

- 1. Safeties (if they did not jump) must immediately relay through the pilot to the ground if any Jumpers were left onboard the A/C. This will provide Commanders on the ground accurate accountability and assessment of true combat power available.
- Normal recovery of USA equipment left on board the A/C will be conducted by the non-jumping Safeties. If no USA PAX are left onboard, USAF will liaison with USA PAX at DAF for recovery of and accountability for all USA equipment still on board.
- 3. All Safeties will report back to the DACO and fill out all necessary paperwork and brief any unusual incidents that occurred during flight or during exit.

• Chapter 14. Communication Systems.

14.1 Communication Systems.

The primary goal of the military's EMC2 is to meet requirements for improved in-flight communications capabilities to conduct planning and maintain situational awareness while enroute to an operational area.

- General information. EMC KEN/DAN. The EMC allows the force to communicate while flying to the objective. KEN systems must be installed on Fixed Installation Satellite Antenna (FISA) capable C-17 Globemaster III's. The Dependent Airborne Node (DAN) may be installed on any C-17 Globemaster III. Key leaders on KEN/DAN aircraft(s) can receive updates and information from take-off up until the 10-minute time warning. After the 10-minute time warning, the KEN/DAN Operator can remain on the headsets throughout the remainder of the operation. For the DAN to have connectivity, DAN equipped aircraft must remain within 40 km of a KEN enabled aircraft.
- 2. Capabilities and services.
 - a. EMC can provide a variety of digital services and communication systems to a commander, key leaders, and staff members during flight. These systems may include Transverse, Secret Internet Protocol Router (SIPR) Voice, Tactical Satellite Voice, Video Teleconference (VTC), Defense Collaboration Service, SIPR Portal, Unified Video Dissemination Service, Command Post of the Future Client and Jabber.
 - b. In order to use all these services, designated workstation users (the commanders, staff members, etc.) MUST bring their SIPR token with them and know their Personal Identification Number." Note: most of the C/50th signal operators do not have a SIPR token and will not have user accounts to the portals/servers that the jumping unit will need to access. It is the USER who needs to have the SIPR token, not the operator. For example, a personal SIPR token to access Army Knowledge-Online-Secret, Outlook Web Access email, or any enterprise based portal.



Figure 14.1a – EMC2 Diagram

• Appendix A. Glossary

- ADMINISTRATIVE PARACHUTE OPERATION (Routine Proficiency Jump). Airborne operations conducted without CE or tactical assembly immediately following the jump. Administrative jumps will be limited to Special and Saturday type programs as a reward for unit and individual outstanding duty performance.
- ADVERSE WEATHER AERIAL DELIVERY SYSTEM (AWADS). A system installed on C-130H aircraft that enables a trained and qualified aircrew to deliver an airborne force on a predetermined drop area under conditions of low ceiling and/or limited visibility. Note: AWADS is a combination of a system and crew qualification that only applies to the C-130H. Not all C-130H aircrews have the ability to employ AWADS to perform airdrop under IMC. While C-130J and C-17 aircraft do not use the AWADS, both are equipped with navigational systems and trained crews which are capable of conducting airdrop under IMC.
- AERIAL PORT. Supports the out load process, inspects U.S. Army and USAF equipment and cargo loads for correct preparation and rigging. Types of aerial ports include Air Mobility Squadrons, Aerial Port Squadrons, and CRF. There are two designations APoE and APoD.

AERIAL PORT OF DEBARKATION (APoD). The aerial port designated for off-loading.

AERIAL PORT OF EMBARKATION (APoE). The aerial port designated for loading.

- AIRBORNE ASSAULT. The parachute assault or airland of elements of an airborne force on unsecured DZs or LZs to attack and seize selected objectives.
- AIRBORNE COMMANDER. The individual designated by the unit's commander (typically the DRAW signature authority) responsible for the airborne operation, who assumes responsibility and authority for all aspects of the marshalling, air movement, and the landing plans.
- AIRBORNE OPERATION. An operation involving the movement and delivery by air of combat forces and their logistical support into an objective area for execution of a tactical mission. The means of delivery may be any combination of parachute assault or airland or airborne unit, air transportable units, and types of transport aircraft depending on the mission and overall situation.
- AIRCRAFT COMMANDER. A Pilot designated Pilot-in-Command of a given aircraft that is responsible for its safe operation and is in command of all PAX on board during flight.
- AIRLAND ASSAULT OPERATIONS. An airland operation conducted by C-130/C-17 aircraft onto a field landing strip.
- AIRLAND OPERATION. An operation involving air movement in which PAX and supplies are air landed at a designated destination for further deployment of units and PAX and further distribution of supplies.
- AIRLAND PERSONNEL. PAX who are manifested on a chalk who DO NOT plan to jump or perform Safety duties, and instead will off load at the objective area airfield or at the DAF/ISB upon completion of the airdrop. Examples of airland PAX include In-fight medics, Parachute Riggers used during in-flight rigging, observers, PAO, EMC2 operators, vehicle operators during airland assault, etc.
- AIRLIFT MISSION COMMANDER. The senior commander of all Air Force elements engaged in a specific airborne operation or specified individual who may be designated as the air mission commander.
- AIRMOBILE OPERATION. Operations in which combat forces and their equipment move about the battlefield in helicopters under the control of a ground force commander to engage in ground combat.
- AIR MOBILITY LIAISON OFFICER (AMLO). A USAF officer specially trained to implement the theater air control system and to advise on control of airlift assets. They are highly qualified, rated airlift officers with airdrop airlift experience, and assigned duties supporting U.S. Army units. AMLO's provide expertise on the efficient use of air mobility assets.

- AIR MOVEMENT CONTROL OFFICER (AMCO). Assigned at company/battery/detachment level. Duties are delineated in FM 55-9, Appendix B, FM 55-12, FORSCOM Reg. 55-12 paragraph 2-8, and Chapter 2 of this SOP. The AMCO must be an officer or NCO, E-5 or above, must be retainable for one year.
- AIR MOVEMENT PLAN. Used in detailed planning for an airlift when the airlift of troops are involved. The respective ground force and USAF commanders prepare it jointly.
- AIR MOVEMENT TABLE. A table prepared by a ground force commander in coordination with USAF commander. This table, issued as an Annex to the operation order, provides the allocation of aircraft space to elements of the ground units to be airlifted, designates the number and type of aircraft in each serial, and specifies the departure area and time of loading and take-off.
- AIR SHOP. Denotes a unit's highest level of staff responsibility, typically Division, or BDE but can be any command level, providing support to airborne operations within an organic unit.
- ALIBI. An alibi is any jumper who was manifested as a jumper, who fails to jump for ANY reason and returns to the departure airfield/ISB. Examples would include a jumper too air sick to safely jump; paratroop doors in aircraft that malfunction, thus stopping some or all of a stick; a red light before the entire stick has exited; malfunction of parachute/equipment inside aircraft, a jump refusal; or any other legitimate reason as determined by the JM.
- ALLOWABLE CARGO/CABIN LOAD (ACL). The amount of cargo, determined by weight, cubic displacement, and distance to be flown, which may be transported by specific aircraft.
- ALTERNATE DOOR EXIT PROCEDURES FOR TRAINING (ADEPT). Training exit procedures to be used by all CAF units when using the MC-6 parachute. Its distinguishing characteristic is that only one paratroop door on an USAF aircraft is used at any one time. That is, a stick of jumpers exits one door, and when the last jumper in that stick has exited his door, jumpers may begin exiting from the other door. ADEPT is a safety measure designed to prevent simultaneous exits and high altitude entanglements.

ANEMOMETER. A device used to measure wind speed and direction.

- ARMY ASSAULT TEAM. A small airborne/Pathfinder unit assigned on a mission basis during airborne assault operations to accomplish and provide security to an USAF DZC in the execution of the USAF DZC mission.
- ARRIVAL AIRFIELD CONTROL GROUP (AACG). When the airborne operation involves arrival airfields, an AACG will be established to discharge duties and responsibilities associated with off-loading PAX, supplies and equipment at the arrival airfield. Duties are similar to the DACG.
- ARRIVAL/DEPARTURE AIRFIELD CONTROL GROUP (A/DACG). The primary function of the A/DACG is to ensure the uninterrupted flow of PAX and equipment scheduled for movement to waiting aircraft for loading.
- BLOCK TIME. In common usage, the term refers to the available time for parachute operations on a given DZ. CHALK. Group of PAX and/or equipment designated to be loaded on a single aircraft.
- CHALK NUMBER. A number assigned to an aircraft used to identify and designate its position primarily to facilitate loading and unloading. Corresponding chalk numbers are given to PAX, vehicles, and supplies for matching designated loads with the aircraft.
- COMBAT LIGHT. A term used to describe the type of airborne operation being conducted. Normally combat light operations consist of the jumper's individual weapon, ammunition, and the minimum essential equipment required to execute a mission that should not exceed 24 hours without resupply.
- COMPUTED AIR RELEASE POINT (CARP). An imaginary area points in the air in which the first parachuted suspended object must exit the aircraft in order to land at the desired point of impact.

- CONTAINER DELIVERY SYSTEM (CDS). A system for aerial delivery of supplies and small items of equipment from low or high altitudes into a small area. The system incorporates a rapid release of 16 bundles (C-130) or 40 bundles (C-17).
- CONTINGENCY RESPONSE FORCE (CRF). USAF CRFs are highly-specialized in training and rapidly deploying PAX to quickly open airfields and establish, expand, sustain, and coordinate air mobility operations. CRFs have taken the place of the TALCE and can serve as both a command and control node and aerial port. CRFs require JAI support for airdrop missions.
- CROSS LOADING. A system of loading troops so that they may be embarked or dropped at one or more LZs, thereby allowing better unit integrity upon delivery and facilitating rapid assembly.
- DANGEROUS CARGO (Hazardous Materials). Any material that is explosive, flammable (liquid or solid), an oxidizer, a corrosive, compressed gas, radioactive, or other regulated material (ORM). A DD Form 1387-2 (Special Handling Data/Certification) is required on all shipments containing hazardous materials. See TM 38-250 for proper packaging, marking, and handling of hazardous materials for air shipment on military aircraft.
- DEPARTURE AIRFIELD CONTROL GROUP (DACG). The mission of the DACG is to coordinate and control the out-loading of any units for deployment or employment operations. The DACG is normally organized from resources that are not required to accompany the task force. A DACG is required for each DAF used. The main function of the DACG is to ensure that U.S. Army units and their equipment and supplies are moved from the alert holding area to the aircraft and are loaded in accordance with the established air movement plan.
- DEPARTURE AIRFIELD CONTROL OFFICER (DACO). The individual designated by the Airborne Commander that has the responsibility to act as a liaison between the Air Shop and the Airborne Commander. Additionally, the DACO is responsible for the safe and efficient out load of the airborne force from the DAF.
- DEPARTURE AREA. The general area encompasses all base camps; bivouacs, DAFs, and airlanding facilities (see Marshalling Area).
- DOOR BUNDLES. Normally limited to A-7A and A-21 containers.
- DRAGON MISSILE JUMP PACK (DMJP). A container used to permit jumpers to jump the SKEDCO litter during airborne operations.
- DROP ZONE CONTROLLER (DZC). The DZC's mission is to rapidly establish assault zones, DZs, Landing Zones, (LZ), and Extraction Zones (EZ) in austere and non-permissive environments. The mission includes initial placement of enroute and terminal navigational aids, control of air traffic, providing command/control communications, and removal of obstacles and unexploded ordnance using demolitions. The DZC ensures that all safety criteria are met and approval is obtained prior to authorizing USAF aircraft into a restricted area and subsequent release of PAX and/or equipment onto a DZ. The DZC maintains constant communications with the drop aircraft beginning six minutes prior to drop and relays all pertinent weather data before the drop (also see USAF STS and AMLO).
- DROP ZONE SAFETY OFFICER (DZSO). The DZSO is the Airborne Commander's representative and is responsible for ensuring the DZ meets all operational and safety criteria for the type and scale of airdrop being conducted. This may include but is not limited to establishing adequate medical coverage and ensuring supporting details are on the DZ, clearing or identifying hazards on the DZ, determining unacceptable surface conditions for airborne operations, and coordinating no drop signals and/or actions.
- DROP ZONE SUPPORT TEAM. Constitutes the entirety of PAX and equipment required for operating a DZ and executing the airdrop release method.
- DROP ZONE SUPPORT TEAM LEADER (DZSTL). In the absence of USAF DZCs, the DZSTL is responsible for executing the air drop release method normally executed by the USAF DZC and the responsibilities of the DZSO. The DZSTL is in responsible for the entire DZST/DZSO Party.

- DUAL RAIL SYSTEM. A cargo handling system found in the C-130 series aircraft consisting of rails which are mounted on the floor of the aircraft and extended the length of the cargo compartment.
- ENGINE RUNNING ON/OFF-LOAD (ERO). The engine running on-load of aircraft is an expedient method of loading jumpers for immediate take-off and subsequent drop on a nearby DZ. ERO is conducted during continuous airborne operations utilizing the same aircraft. Engine running off-load is used during airland operations incorporating PAX and rolling stock. The aircraft airlands, off- loads, and immediately departs.
- EXTRACTION ZONE (EZ). A specified ground area upon which equipment or supplies are delivered by means of a jointly approved extraction technique from an aircraft in flight in close proximity (five to 10 feet) to the ground.
- GROUND LIAISON OFFICER (GLO). Responsible for the coordination of U.S. Army, USAF, and support agencies in the planning and execution of JA/ATT operations and U.S. Army SAAM; monitors all airborne/airland operations conducted from USAF aircraft to ensure successful mission completion of the JA/ATT program; represents the best interests of the U.S. Army in all airborne/airland operations; keeps the U.S. Army informed of any mission related discrepancies and provides technical assistance to the USAF on current U.S. Army doctrine, equipment and procedures. GLOs are employed by the Air Shop.
- GROUND TIME. That period of time the aircraft is on the ground from arrival at the blocks to removal of blocks for departure.
- HEAVY DROP RIG SITE (HDRS). The location HE is rigged, and the pre-inspection is conducted. This can be at the unit area, field expedient location, or a more permanent site.
- HEAVY EQUIPMENT (HE). Equipment airdropped from USAF aircraft using platforms and cargo parachutes. Also referred to as Hd.
- HEAVY EQUIPMENT POINT OF IMPACT (HEPI). The point of intended impact of HE loads, normally 500 yards in from the leading edge of the DZ. Refer to the DZ charts for exact distances as they vary with actual size of each DZ.
- HIGH ALTITUDE ENTANGLEMENT. Any entanglement that occurs from aircraft exit through full canopy deployment.
- INCIDENT. Any procedure that prevented the successful completion of any planned airdrop operation. Some examples are towed jumper, entanglements, dual deployment of the main and reserve parachutes. See malfunction.
- IN-FLIGHT RIGGING. Used only on long flights normally 3 hours or more in length. The purpose is to conserve the energy of the jumper and keep him as comfortable as possible.
- INITIAL POINT (IP). The point at which an inbound aircraft makes its final major heading change in order to gain the proper approach heading to the DZ. This usually occurs six minutes out from the green light. After the aircraft reaches the IP there will be no more major heading changes until after the drop is complete.
- IN-PLACE TIME. The time at which an aircraft is at a designated location.
- INSTRUMENT FLIGHT RULES (IFR). Those rules that are in effect when weather prevents flying using only visual methods.
- INSTRUMENT METEOROLOGICAL CONDITIONS (IMC). Weather worse than 1,500 feet ceiling or 3 nautical mile visibility. IMC requires use of IFR.
- JOINT AIRBORNE/AIR TRANSPORTABILITY TRAINING (JA/ATT). Joint training between the U.S. Army and USAF encompassing airdrop, airland assault, and static aircraft load training. See AMC OP ORDER 17-76.

- JUMP REFUSAL. A jump refusal is defined as a jumper who has been to final manifest and for some reason other than airsickness, physical impairment, aircraft equipment malfunction, or air item malfunction, voluntarily or willfully refuses to exit the aircraft.
- LANDING ZONE (LZ). A specific area for landing of assault aircraft.
- LOAD TIME. A time coordinated between the U.S. Army and the USAF. It is when aircraft will be ready to load jumpers.
- LOADMASTER. A USAF technician qualified to plan loads, operate materials handling and auxiliary equipment, and supervise loading of aircraft.
- LOW ALTITUDE ENTANGLEMENT. Any entanglement that occurs from preparation for landing altitude throughout descent to landing.
- MALFUNCTION. A malfunction is defined in AR 59-4 as "the failure of an airdrop item or component of an airdrop system to function as it was intended or designed," whether the equipment failed because of human error or emergency procedures used.
- MALFUNCTION OFFICER. A qualified parachute maintenance officer, warrant officer or NCO who investigates malfunctions of parachutes and/or any serious parachute accident of airdrop PAX or equipment.
- MARSHALLING AREA. The general area in which unit's camp and from which an air movement is initiated, where aircraft are positioned, concentrated, or parked for on or off-loading (also called a staging area).
- MARSHALLING AREA CONTROL OFFICER (MACO). The MACO is the responsible unit commander's representative for airborne operations operating from a DZ and will control all participating support elements and activities. The MACO will execute the duties of the DACO on a DZ or airfield when a DACO is not necessary.
- MASS TACTICAL AIRBORNE OPERATIONS. An airborne operation which culminates in an airborne assault problem with either a unit equivalent to a BN size or larger; a separate company battery; or an organic staff of regimental size or larger. The Soldier must fill a position commensurate with his or her rank or grade during the problem.
- MATERIAL HANDLING EQUIPMENT (MHE). Special mechanical devices for handling/loading supplies and equipment on or off USAF aircraft.
- MAXIMUM GROSS WEIGHT (TAKE-OFF). The total weight of the aircraft when it is completely loaded for the mission. This is operating weight plus fuel, cargo, and passengers. This total weight must not exceed the maximum gross weight indicated in the technical manual for the aircraft.
- MID ALTITUDE ENTANGLEMENT. Any entanglement that occurs after full canopy deployment throughout descent to preparation for landing altitude.
- P-HOUR. The planned time that an airborne assault starts (the first jumper exits the aircraft over the objective DZ).
- PARACHUTE RIGGING FACILITY (PRF). Responsible for the QM HDRS, PIF, parachute shake-out tower, parachute packing facility, parachute maintenance facility, Ready Cage, and the air items inventory.
- PARTIAL RIG. Modified in-flight rigs where only the jumpable packs and a weapons case are rigged to the jumper while in flight.
- PLANE SIDE ISSUE. Parachutes issued to jumpers from the planeside or off the ramp on an aircraft for the purpose of rigging up and boarding the aircraft to participate in a subsequent airborne operation.
- PERSONNEL POINT OF IMPACT (PPI). The point intended landing on a DZ for the first parachutist. Normally the PPI is 350 yards in from the leading edge of the DZ.

- PRE-PLANNED LOADS. Loads set up as to weight, cube, manifested, balanced for center of gravity, and ready to load upon arrival of aircraft (synonymous with "Type loads").
- PRIORITY VEHICLE LISTS. A list of equipment from deploying unit arranged in priority of movement for specific or type operation.
- RACETRACK. An additional flight route (pass) over a DZ.
- RECONNAISSANCE AND SECURITY TEAMS (R&S TEAMS). Special teams that will be dropped away from the initial DZ on critical terrain targets for the purpose of denying, confusing, delaying, and reporting enemy elements attempting to penetrate the drop area during the initial phases of an airborne assault.
- SERIAL. Any number of aircraft under one USAF commander, usually conveying one air-transportable unit or sub- unit to the same objective.
- SLING LOADS/EXTERNAL TRANSPORT. The carrying of cargo as sling loads outside the cargo compartment of an aircraft. When a helicopter is employed, its cargo hook is the suspension point for the load; with a fixed-wing aircraft, the suspension points are the bomb racks mounted on the wings.
- SORTIE. One mission by one aircraft.
- SPECIAL ASSIGNMENT AIRLIFT MISSION (SAAM). Point-to-point airland and normally does not include tactical missions for the aircraft supporting the airlift.
- STATIC LINE PARACHUTE COLLISION. Any time a jumper or jumper's canopy comes in contact with another canopy or jumper.
- STATIC LINE PARACHUTE ENTANGLEMENT. Anytime two or more parachutists become attached by some component of the parachute system or part(s) of their body.
- STATION KEEPING EQUIPMENT (SKE). Electronic equipment aboard USAF aircraft (C-130 series aircraft and C-17 Globemaster III) that enables the aircraft to maintain its proper position in formation during IFR conditions.
- STATION TIME (ST). A specified time at which aircrew, passengers, and materials are to be in the aircraft and prepared for flight. Passengers will be seated, and loads tied down. Aircrews will have completed briefing and aircraft pre-flight inspection prior to ST. Normally, ST will be 35 minutes prior to take-off time.
- STICK. The group of jumpers exiting from the same paratroop door or ramp of an aircraft on the same DZ.
- TANKER AIRLIFT CONTROL ELEMENT (TALCE). A functional tactical airlift organization established to support air elements at an air facility. Normally, it includes an operations function such as movement control and communication; a support function, which relates to the air facility itself; and a liaison function with appropriate airborne or other air units. The USAF has replaced this duty position with CRF.
- TIME ON TARGET (TOT). That designated time when the first jumper or piece of equipment is released from an aircraft over a predetermined DZ.
- USAF SPECIAL TACTICS SQUADRON (STS). A team of USAF PAX organized, equipped, and trained to establish and operate navigational or terminal guidance aids, communications, and aircraft control facilities within the objective area of an airborne operation. STS are a type of DZC.
- VISUAL FLIGHT RULES (VFR). Those rules that are in effect when weather permits flying using visual visibility.
- WEATHER DECISION TIME. A predetermined time agreed upon by the USAF Airlift Mission Commander and the Airborne Commander to decide on a GO or NO-GO for parachute operations.

- WIND DRIFT INDICATOR (WDI). A wind drift indicator is used to determine the proper release point for jumpers on light aircraft operations. A WDI incorporates the exact drift and rate of descent characteristics of a jumper with a fully inflated parachute.
- ZONE MARKER. A USAF beacon that emits a signal utilized by C-17 aircraft to locate a DZ in IMC weather. The zone marker must be placed on or near the desired impact point. The combination of SKE/ZM gives C-17 aircraft an IFR drop capability similar to AWADS for C-130 aircraft.

• Appendix B. Abbreviations

A	Airborne
AAB	Army Airborne Board
AACG	Arrival Airfield Control Group
AAF	Army Airfield
AAR	After Action Review
ABNSOTD	Airborne Special Operations Test Directorate
ACE	Airborne Contingency Force
	Advanced Combat Helmet
	Auvanceu Combat Heimet
ACL	Allowable Cargo/Cabin load
ACotS	Assistant Chief of Staff
ACRF	Army Contingency Response Force
A/DACG	Arrival/Departure Airfield Control Group
ADACO	Assistant Departure Airfield Control Officer
ADEPT	Alternate Door Exit Procedures for Training
ADZSO	Assistant Drop Zone Safety Officer
ADZSTL	Assistant Drop Zone Support Team Leader
AEBP	Advanced Emergency Bailout Parachute
AFI	Air Force Instruction
AFMAN	Air Force inter-service Manual
	Above Ground Level
	Assistant lumpmastar
	Assistant Jumphaster
	Aviator Kit Day
ALICE	All-purpose, Lightweight, Individual Carrying Equipment
ALO	Air Liaison Officer (Fighter Aircraft)
ALS	Air Lift Squadron
AMC	Air Mobility Command
AMCC	Air Mobility Control Center (USAF Command and Control
	Post)
AMCO	Air Movement Control Officer
AMEDD	Army Medical Department
AMLO	Air Mobility Liaison Officer
AMO	Air Movement Officer
AMR	Air Movement Request
AMS	Air Mobility Squadrop
	Army Novy/Portable Padia Communications
	Airly Navy/Foliable Radio Communications
ANG	All National Guard
A/N I	Administrative/Non-Tactical
AOC	Air Operations Center
APoE	Aerial Port of Embarkation
APoD	Aerial Port of Debarkation
AR	Army Regulation
ARC	Accessory Rail Connector
ASAP	As Soon As Possible
ASOP	Airborne Standing Operating Procedures
ATP	Army Techniques Publication
ATPS	Advanced Tactical Parachute System
	Approved Lise List
	Adverse Weather Aerial Delivery System
	Ambulance Exchange Doint
	Ambulance Exchange Folin
	Dasic All DUTTE COULSE Drigodo Aviation Element
	Drigade Aviation Element
BAK	Basic Airborne Refresher
BCI	Brigade Combat Leam
BCU	Battery Coolant Unit
BDE	Brigade
BIS	Backup Iron Sight
BMNT	Beginning Morning Nautical Twilight
BN	Battalion

BSB	Brigade Support Battalion
BSTB	Brigade Special Troops Battalion
C2	Command and Control
CAASOP	Common Army Airborne Standing Operating Procedure
САВ	Combat Aviation Brigade
CAF	Conventional Airborne Force
CARP	Computed Air Release Point
CAS	Close Air Support
CASEVAC	Casualty Evacuation
CAT	Category
Chem	Chemical
CID	Criminal Investigation Command
CCP	Casualty Collection Point
ССТ	Combat Controller Team
CDR	Commander
CDS	Container Delivery System
СН	Cargo Helicopter
CG	Commanding General
CLS	Combat Lifesaver
CofS	Chief of Staff
CO2	Carbon Dioxide
COL	
COMMS	Communications
CONOP	Concept of Operation
	Contingency Response Force (USAF)
	Compating Airfield Centrel Croup
	Departure Airfield Control Officer
	Departure Airfield
	DoD Enterprise Portal System
	Direct Ligison Authorized
	Director Mobility Forces (USAF)
	Division
DMIP	DRAGON Missile Jump Pack
DNS	Day/Night Sight
DoD	Department of Defense
DoDI	Department of Defense Instruction
DOF	Direction of Flight
DOL	Department of Logistics
DOTMLPF-P	Doctrine, Organization, Training, Materiel, Leadership and
	Education, Personnel, Facilities, and Policy
DRAW	Deliberate Risk Assessment Worksheet
DRC	Dynamic Re-tasking Capability
DTG	Date and Time Group
DTO	Division Transportation Office
DZ	Drop Zone
DZC	Drop Zone Controller (USAF)
DZCO	Drop Zone Control Officer (USAF)
DZSO	Drop Zone Safety Officer
DZST	Drop Zone Support Team
DZSTL	Drop Zone Support Team Leader
ECH	Enhanced Combat Helmet
	Emergency Deployment Readiness Exercise
	Enging Evening Nautical Twilight
	Electronic Mall
	Enroute Mission Command
	Enroute Mission Command Capability
	Emergency Medical Services
EINVG	Enhanced Night Vision Goggie

ERO	Engine Running on-load/off-load
ETP	Exception to Policy
EUCOM	European Command
EXEVAL	Exercise Evaluation
EZ	Extraction Zone
FAA	Federal Aviation Administration
FAST	Future Assault Shell Technology
FARP	Forward Area Refueling Point
FGNC	Fort Bragg North Carolina
1SG	First Sergeant
FLA	Front-line Ambulance
FLC	Fighting Load Carrier
FLIPL	Financial Liability Investigation of Property Loss
FLS	Field Landing Strip or Flight Line Safety
FM	Field Manual or Frequency Modulation
FMR	Financial Management Regulation
FMTV	Family of Medium Tactical Vehicle
FOD	Foreign Objects and Debris
FORSCOM	U.S. Army Forces Command
FPID	Foam Padded Internal Divider
FTX	Field Training Exercise
FSC	Forward Support Company
FSE	Fire Support Element
GCMCA	General Court Martial Convening Authority
GLM	Grenade Launcher Module
GLO	Ground Liaison Officer
GMT	Greenwich Mean Time
GPS	Global Positioning System
GRF	Global Response Force
GTA	Graphic Training Aid
HALO	High Altitude Low Opening
HAHO HAW	High Altitude High Opening Heavy Airlift Wing
HC	High Cut
HD	Heavy Drop or High Definition
HDIP	Hazardous Duty Incentive Pay
HDO	Hazardous Duty Orders
HE	Heavy Equipment
HDRS	Heavy Drop Rig Site
HEPI	Heavy Equipment Point of Impact
HMMWV	High Mobility Multi-Wheeled Vehicle
HPT Lowering Line	Hook Pile Tape Lowering Line
HSPR	Harness Single Point Release
HSTAMIDS	Handheld Standoff Mine Detection System
HVCDS	High Velocity Container Delivery System
HQ	Headquarters
IAW	In Accordance With
ICODES	Integrated Computerized Deployment System
IBCT(A)	Infantry Brigade Combat Team (Airborne)
ID	Identification
IFF	Identification Friend or Foe
IFR	Instrument Flight Rules
IIA	Individual Issue of Ammunition
IMC	Instrument Meteorological Conditions
IHPS	Integrated Head Protection System
I-HPT Lowering Line	Improved Hook Pile Tape Lowering Line
IMI	Information Management Tool
INS	Inertial Navigation System
	Improved Outer Tactical Vest
IL	Initial Point

IPT	In Place Time
ISB	Intermediate Staging Base
ITO	Installation Transportation Office
JA/ATT	Joint Airborne/Air Transportability Training
JFF	Joint Forcible Entry Operations
	loint Inspector/Inspection
	Joint Airdron Inspection
	Jumpmaster
JIMB	Joint Mission Briefing
JMPI	Jumpmaster Personnel Inspection
JMR	Jumpmaster Refresher
JOAD	Joint Operational Access Demonstration
JOAX	Joint Operational Access Exercise
JP	Jump Pack
JPADS	Joint Precision Aerial Delivery Systems
JRSOP	Joint Readiness Standard Operating Procedures
JRTX	Joint Readiness Training Exercise
JSGPM	Joint Service General Purpose Mask
JTF	Joint Task Force
JTX	Joint Training Exercise
KEN	Key Leader Enroute Node
IAW	Light Anti-Tank Weapon
IBE	Load Bearing Equipment
	Load Bearing Vest
	Low Cost Low Altitude
	Light Mobility Tastical Vahiela
LPU	
LUI	Letter of Instruction
	Lieutenant Colonel
LWGM	Light Weight Ground Mount
LZ	Landing Zone
MAAWS	Multi-Role Anti-Armor/Anti-Personnel Weapon System
	AKA Carl Gustaf
MACO	Marshalling Area Control Officer
MAFEX	Mobility Air Forces Exercise
MACOM	Major Command
MAWC	Modular Airborne Weapons Case
MEDEVAC	Medical Evacuation
METT-TC	Mission, Enemy, Terrain and Weather, Troops and Support
	Available-Time Available. Civil Consideration
MFF	Military Free-Fall
MG	Machine Gun
MHF	Materials Handling Equipment
MILES	Multiple Integrated Laser Engagement System
MIM	Maltiple Integrated Laser Engagement System
mm	Millimotor
MoA	Memorandum of Agreement
MOA	Mehility Operations Conter
	Mobility Operations Center
	Maximum on Ground
M-HPT Lowering Line	Modified Hook Pile Tape Lowering Line
MOLLE	Modular Lightweight Load-Carrying Equipment
MOS	Military Occupational Specialty
Mph	Miles per hour
MP	Military Police
MSC	Major Subordinate Commands
MSL	Military Shipping Label
MSN	Mission
NCO	Noncommissioned Officer
NCOIC	Noncommissioned Officer in Charge
	-

NET	New Equipment Training or Network
NFP	Not For Pay
NGB	National Guard Bureau
NLT	No Later Than
NM	Nautical Miles
NSN	National Stock Number
NVG	Night Vision Goggle
000	Ops Core Composite
OCONUS	Outside the Continental United States
OIC	Officer in Charge
OPCON	Operational Control
OPLAN	Operation Plan
OPORD	Operation Order
OSS	Operations Support Squadron
OST	Out Load Support Team
PA	Physician Assistant
PACAF	Pacific Air Forces
PACOM	Pacific Command
PAO	Public Affairs Office
PAX	Personnel
PBHC	Paperboard Honeycomb
PCS	Permanent Change of Station
PETL	Paratrooper's Essential Task List
PHA	Personnel Holding Area
P-HR	Parachute Hour
PIF	Parachute Issue Facility
PJ	Primary Jumpmaster
PLF	Parachute Landing Fall
PLS	Palletized Load System
PMO	Provost Marshal's Office
PMR	Participant Movement Request
POC	Point of Contact
POI	Program of Instruction
POL	Petroleum, Oli, and Lubricants
	Privately Owned Venicle
	Personnel Point of Impact
	Parachule Rigging Facility
	Push to Talk Drastical Work incide the Aircraft
	Roil Attached Communications
	Rail Allached Communications
	Rainp-side Allachment of Combat Equipment Paised Angle Marker
DE	Padio Fraguency
	Pigging Exercise
RSOP	Readiness Standard Operating Procedure
RT	Rough Terrain
RTO	Radio/Telephone Operator
SAAM	Special Assignment Airlift Mission
SAT	Sustained Airborne Training
SDDG	Shipper's Declaration for Dangerous Goods
SDO	Staff Duty Officer
SECOMP	Secure Enroute Communications Package
SFC	Sergeant First Class
SGT	Sergeant
SKE	Station Keeping Equipment
SIPR	Secret Internet Protocol Router
SL	Static Line
SMAW-D	Shoulder Launched Multipurpose Assault Weapon-
	Disposable

SME SMJP SOP SSG SSN ST STS SUS BDE TACP	Subject Matter Expert Stinger Missile Jump Pack Standard Operating Procedure Staff Sergeant Social Security Number Station Time Special Tactics Squadron (USAF) Sustainment Brigade Tactical Air Control Party
TALCE	Tanker Airlift Control Element
ТАР	Tactical Assault Panel
TC	Training Circular
TCN	Transportation Control Number
TCP	Traffic Control Point
TFSS	Tactical Flotation Support System
TI	Technical Inspection
TM	Technical Manual
ТО	Technical Order
ТОТ	Time on Target
TPRS	Towed Parachutist Retrieval System
TREX	Training and Exercise
TSC	Training and Standardization Committee
UH	Utility Helicopter
UPRB	Universal Parachutist Recovery Bag
USAAAS	U.S. Army Advanced Airborne School
USAF	United States Air Force
USAFE	U.S. Air Forces in Europe
USAIS	U.S. Army Infantry School
11thUSARUER	U.S. Army Europe
USAQMS	U.S. Army Quartermaster School
USASOC	U.S. Army Special Operations Command
USL-M	Universal Static Line Modified
	Visual Flight Rules
VIRS	Verbally Initiated Release System
	Visual Meteorological Conditions
VS-17	Visual Signal - 17 Wind Drift Indicator
	Whather
	Executive Officer
	Zana Availability Panart

• Appendix C. References

- 173rd IBCT (A) ASOP Airborne Standard Operating Procedure
- 82d Airborne Division Regulation 350-1 Training
- 82d Airborne Division JRSOP Joint Readiness Standard Operating Procedures
- 82d Sustainment Brigade External SOP for Aerial Delivery Operations
- C-130 Operations Configuration/ Mission Planning
- AFI 11-2C-5V3ADD-A C-5 Operations Configuration/ Mission Planning
- AFI 11-2C-17V3 C-17 Operations Configure Management/Mission Planning
- AFI 11-2C-17V3ADD-A C-17 Operations Configuration/ Mission Planning
- DAFMAN 13-217 Drop Zone and Landing Zone Operations
- AFMAN 24-204 / TM 38-250 Preparing Hazardous Materials for Military Air Shipments
- AMC REG 3-3 Combat Control Team Operations and Procedures, Joint Airborne/Air Transportability Training (JA/ATT) Monthly Operations Joint Airdrop Inspection Records, Malfunction Investigations, and Activity Reporting
- AR 95 Flight Regulations
- AR 350-1 Army Training and Leader Development
- AR 385-10 The Army Safety Program
- ATP 4-16 Movement Control
- ATTP 3-18.12 Air Assault Operations
- Designation of an Army lead for Conventional Airborne Forces Charter
- Army Airborne Board
- Standing Committee Assignments
- Fort Bragg Directive for Training Accident Evidence Preservation
- CORPS Regulation 350-6 XVIII Airborne CORPS and Fort Bragg Range Regulations
- CORPS Master Policy #7 XVIII Airborne Corps Airborne Operations XVIII Airborne Corps Parachute Pay Administration and Procedures
- DoD 4500.9R DTR Part II Department of Transportation Regulation Cargo Movement
- DoD 4500.9R DTR Part III Department of Transportation Regulation Mobility Volume 7A, Chapter 24, Incentive Pay, Hazardous Duty Other Than Aerial Flight
- DoD Instruction 1340.09 Hazard Pay Program
- XVIII Airborne Corps Aviation Request
- Installation Spill Contingency Plan, the Spill Prevention, Control, and Countermeasures Plan and the Facility
 Response Plan
- FM 1-100 Army Aviation Operations
- FM 3-21.38 Pathfinder Operations
- FM 3-35 Army Deployment and Redeployment
- FM 3-52 Airspace Control
- FM 3-99 Airborne and Air Assault Operations
- FM 4-01 Army Transportation Operations
- JP 3-17 Air Mobility Operations
- JP 3-18 Joint Forcible Entry Operations
- TB 43-0001-80 Personnel Parachute Authorized for use List
- TC 3-21.220 Static Line Parachuting Techniques and Training Standard Characteristics (Dimensions, Weight, and Cube) for Transportability of Military Vehicles and Other Outsize/Overweight Equipment
- TM 4-48.03 Airdrop of Supplies and Equipment: Rigging Containers Multi-Service Helicopter Sling Load: Single Point Load Rigging Procedures Multi-Service Helicopter Sling Load: Dual Point Load Rigging Procedures
- TM 55-450-10/1 Standard Loads in USAF C-130 Aircraft
- USASOC Reg 350-2 Training Airborne Operations

• Appendix D. Forms, Check Lists, and Reports

D-1. GENERAL INFORMATION

- 1. The purpose of this Appendix is to provide one consolidated list of all paperwork that the S-3 Air, JM, DACO, medical support, and/or DZSTL/DZSO will have to fill out through the course of preparing for and executing an airborne operation.
- 2. Planning and Coordinating.

D2. JUMPMASTER PACKET AND CHECKLISTD3. OUT LOAD BRIEF CHECKLISTD4. S-3 AIR BRIEF

- 3. During Airborne Timeline.
 - D5. DZSTL/AIRCREW MISSION BRIEFING CHECKLIST
 D6. JUMPMASTER TEAM SERIOUS INCIDENT BRIEF
 D7. JUMPMASTER/PILOT BRIEF
 D8. FLASH REPORT
 D9. STRIKE REPORT
 D10. SERIOUS INCIDENT CHECKLIST FOR DACO'S
 D11. AIRDROP SERIOUS INCIDENT REPORT
 D12. FLA LOAD PLAN (EXAMPLE)
 - D13. MEDICAL AID BAG (EXAMPLE)
 - D14. FOREIGN JUMPER REQUEST
- 4. Miscellaneous Forms.
 - a. Air Force IMT Form 4309, DZ/LZ Control Log.
 - b. DA Form 1306, Statement of Jump and Loading Manifest.
 - c. DA Form 1307, Individual Jump Record.
 - d. DA Form 1687, Delegation of Authority Card.
 - e. DD Form 200, Financial Liability Investigation of Property Loss.
 - f. DA Form 3161, Request for Issue or Turn-In.
 - g. DA Form 3645, Organizational Clothing, and Individual Equipment Record.
 - h. DA Form 3912, Army Parachute Log Record.
 - i. DD Form 1249, SAAM or Joint Chiefs of Staff Exercise-Airlift Request.
 - j. DD Form 1348-6, DoD Single Line Item Requisition Document.
 - k. DD Form 2133, Joint Airlift Inspection Record/Checklist.
 - I. DD Form 2977, Deliberate Risk Assessment Worksheet.
 - m. AAA-216, Unit Personnel Accountability Report.
D-2. JUMPMASTER PACKET AND CHECKLIST

Date:

The following outlines information necessary for the planning, coordination, and execution of a scheduled airborne operation by the elements of ______.

Essential Information

ate of the operation.	
ine number:	
umber/type of Aircraft:	
arking:	
umber of PAX per Aircraft:	
ype of parachute requested:	
ype of issue requested:	
Z:	

PAX Assignments

Airborne Commander:

Sortie Commander(s):

СО	PAX	JM	SAF	DOOR BUNDLE	R DET NCOIC		DR DET NCOIC PERS		

Critical times

Weather decision:

S-3 Air briefing:

Manifest call:

Pre-jump training:

Movement to departure airfield:

Parachute issue:

LT: ST:

51.

Take-off time:

Objective time:

Coordinating instructions Uniform and equipment:

Transportation (#, place, time):

Air items:

Detail report location/time:

Names for manifest submitted NLT:

Other

D-3. OUT LOAD COORDINATION BRIEF CHECKLIST

Parking #	R-5	R-6	R-7	R-8	R-9	R-10		Q-9	Q-10	Q-11	Q-12	Q-13		
Tail #	93293	40069	30602	30600	50105	60004		2063	1670	1691	1677	2065		
Fuel Load	80K	80K	80K	80K	80K	80K		28K	28K	26K	28K	28K		
Maintenance Status	PMC	PMC	FMC	PMC	FMC	PMC		FMC	PMC	FMC	FMC	FMC		
HE Loads/ #Pax	102 JM	2 PAX PER PRS,SFTS	A/C ,AAS,CO	оммо				60 F JMF	PAX PE PRS,SF	R A/C TS,AAS	;			
Jumper Data	CON 1000	MBAT EQU DA	IPMENT	-300 LB	S PER,	Г11			CE	-400 LI	BS PER	,T11,11	00A	
Key Pax Bump Plan				LATE	ST BUN	IP TIME	FOF	R KEY P	PAX IS S	ST.				
Bump Plan	KEY LDR	KEY LDR	4	3	2	1		9	8	7	6	5		
Abort Plan/ Alibi Criteria	AI	BN CDR R	EQUEST	T: 1 PRI	MARY P	ASSES/	1 AL	IBI, RE	ATTAC	K FOR	WINDS	, 5/20		
LT						1710								
Army ST.						1735								
то						1810								
Latest TO.	1830													
тот						1900								
DZ	NORMANDY													

D-4. S-3 AIR BRIEF

- 1. Audience
 - a. Airborne Commander.
 - b. S-3 Air Shop.
 - c. JM Teams.
 - d. DACO/MACO.
 - e. DZSO/DZSTL.
 - f. Malfunction Officer.
 - g. Medical Coverage OIC/NCOIC.
 - h. Parachute Recovery OIC/NCOIC.
 - i. Enabling Staff (Sustainment/Mobility).

2. Briefing Agenda.

- a. Airborne Commander.
- b. Quantity (#) / Type of Aircraft/Seat Configuration.
- c. DZ information: Direction of flight, # seconds of green light, # of passes, # Jumpers per pass, and hazards on the DZ.
- d. Door bundles/special items of equipment.
- e. Air routes.
- f. 30-minute Tactical Update: Weather conditions, enemy situation, ground tactical plan update, challenge and password, assembly plan, and parachute turn-in.
- g. One minute and 30-second reference points.
- h. Time schedule:

Weather decision.	Donning parachutes.
JM team rehearsal.	JMPI.
Manifest call.	LT.
Pre-jump.	ST.
Load transportation.	TO.
Mock door training.	In-flight rig/partial rig.
Parachute issue.	TOT.

- i. Weather: % chance of rain, winds, and temperature.
- j. Ground tactical plan.
- k. Order of exit.
- I. Assembly plan.
- m. Key PAX/bump plan.
- n. Coordinating instructions.
- o. Parachute issue/recovery plan.
- p. Marshalling Plan/movement to DAF.
- q. Coordinating instructions.
 - i. Alibi jumper/no drop.
 - ii. Brief how to raise seats.
 - iii. Parking plan.
 - iv. Class I Plan during out load.
- r. DZ Information / Landing Plan (Example Checklist).

DZ:	
_ength:	
Nidth:	
Seconds of green light:	
# PAX mass exit:	
# PAX ADEPT:	

HE loads:
PPI distance from leading edge (yards):
HEPI distance from leading edge (vards):
Approach heading:
DZ distance from DAF (miles):

D-5 DZSTL/AIRCREW MISSION BRIEFING CHECKLIST

DZST / AIRCREW MISSION BRIEF CHECKLIST							
1. DZ / DZ LOCATION / JA/ATT LINE NUMBE							
2. TOT / BLOCK TIME / NUMBER OF PASSES							
3. DATE DZ APPROVED FOR USE / ZAR NUN							
4. TYPE OF DROP (HE / PE / CDS):							
5. TYPE OF AIRDROP RELEASE (VIRS/CARP/	GMRS/ VI	SUAL/AWADS):					
6. TYPE OF PARACHUTE / ALTITUDE:							
7. GROUND QUICK DISCONNECTS / TYPE:							
8. NUMBER PERSONNEL:							
9. COMBAT EQUIPMENT / YES or NO:							
10. NUMBER OF SAFETIES / A/L PERSONNE	L:						
11. EQUIPMENT: DOOR BNDLS/CDS BNDLS/	/PLATFOR	MS/HIGH VELOCITY:					
12. NUMBER AND TYPE OF AIRCRAFT:							
16 SHADE DESIGNATOR / CODE LETTER							
16. SHAPE DESIGNATOR / CODE LETTER:							
17. EMERGENCY / NO DROP PROCEDURES		DIRECTION OF FLIG	HT: MAG-	- DZ CALL SIGN:	DZ		
B ALTERNATE:							
C. TERTIARY:							
18. DZ SUPPORT CAPABILITIES							
A. DZ CALL SIGN:							
B. PRIMARY COMMS:							
C. ALTERNATE COMMS:							
D. TRANSITION FREQ:							
E. VISUAL ACQUISITION AID:							
F. MEW EQUIPMENT:							
19. VERIFY AIRSPACE COORDINATION:							
20. AIR MISSION CDR (USAF)							
NAME.	PHONE NOWBER.						
21 AIRBORNE CDR (ARMY)							
BANK:	UNIT:						
NAME:							
·····							
22. DZSTL/DZSO							
RANK:		UNIT:					
NAME:		PHONE NUMBER:					
23. DROP SCORE / INCIDENT / ACCIDENT RI	EPORTING	PROCEDURES: AF FC	ORM IMT 4304 /	FLASH REPORT			

DZST / AIRCREW MISSION BRIEF CHECKLIST								
1. DZ / DZ LOCATION / JA/ATT	SICILY DZ, FT. BRAGG, NC							
2. TOT / BLOCK TIME / NUMBER	LIFT 1: 2100-2200, LIFT 2: 2350-0035							
3. DATE DZ APPROVED FOR US	07MAR2013, #649							
4. TYPE OF DROP (HE / PE / CDS	5):		PE					
5. TYPE OF AIRDROP RELEASE (VIRS/CARP/GMRS/ V	ISUAL/AWADS):	CARP					
6. TYPE OF PARACHUTE / ALTIT	UDE:		T-11/1000' AGL					
7. GROUND QUICK DISCONNED	CTS / TYPE:		N/A					
8. NUMBER PERSONNEL:			406 LIFT1, 406 LIFT2					
9. COMBAT EQUIPMENT / YES	or NO:		YES					
10. NUMBER OF SAFETIES / A/L	PERSONNEL:		16 LIFT1, 16 LIFT2					
11. EQUIPMENT: DOOR BNDLS,	CDS BNDLS/PLATFO	RMS/HIGH VELOCITY:	4 X BD					
12. NUMBER AND TYPE OF AIR	CRAFT:		3 X C17 / 2 X C130J					
13. DZ INFORMATION:			4980 YDS X 1300 YDS					
14. DZ MARKINGS / SIGNALS			SEE SKETCH IN BOX					
15. PANELS / LIGHTS:			10 x COVERT LIGHTING					
16. SHAPE DESIGNATOR / COD	E LETTER:		"A" ALPHA					
17. EMERGENCY / NO DROP PE	ROCEDURES:	DIRECTION OF FLI	GHT: 204.7 MAG DZ CALL SIGN: SICILY DZ					
A. PRIMARY:	"NO DROP" OVER COMMS	<mark>.</mark>	IR Strobe					
B. ALTERNATE:	RED STAR CLUSTER	35' x 35'	A					
C. TERTIARY:	LIGHTS EXTINGUISHED	"A" 1,000 m						
		COVERT	_,					
18. DZ SUPPORT CAPABILITIES								
A. DZ CALL SIGN:	SICILY DZ	**						
B. PRIMARY COMMS:	VHF: 139.7	* *						
C. ALTERNATE COMMS:	UHF: 314.2	250 m						
D. TRANSITION FREQ:	FM: 41.00 S							
E. VISUAL ACQUISITION AID	: COVERT "A"		* *					
F. MEW EQUIPMENT:	DIC-3 ANEM	OMETER, 30GM PILOT BALOONS, HELIUM						
19. VERIFY AIRSPACE COORDIN	IATION: RANGE SCH	EDULERS: 987-6543 C	OR COMMAND POST: 123-4567					
20. AIR MISSION CDR (USAF)								
RANK:		UNIT:						
NAME:		PHONE NUMBER:						
21. AIRBORNE CDR (ARMY)								
		PHONE NUIVIBER:						
ZZ. DZSTL/DZSU		LINUT						
		PHONE NUMBER:						

23. DROP SCORE / INCIDENT / ACCIDENT REPORTING PROCEDURES: AF FORM IMT 4304 / FLASH REPORT

D-5.1 DZSTL/AIRCREW MISSION BRIEFING CHECKLIST (Instructions)

- LINE 1. List the name of the DZ (Sicily, George Tree, Taylor Creek, etc.), its location (Ft. Bragg, NC, Camp Mackall, NC, Ft. Stewart, GA.), the line number from the Air Movement Table.
- LINE 2. TOT/Block Time and number of passes requested. Example, Lift 1 2300(TOT)-0000, Lift 2 0100-0200, two passes each lift.
- LINE 3. Must be a current DZ survey. Current surveys can be obtained by calling ZAR facsimile on demand system at Defense Switch Network (DSN) 576-2899 and request document No. 1001. Example 07MAR2013, #649.

LINE 4. List types of drops being conducted, i.e., CDS and PE.

LINE 5. Check the type of airdrop release method.

LINE 6. List the type(s) of drop altitude(s) for all parachute systems.

LINE 7. If using ground quick disconnects, list the type. "N/A" for not applicable.

LINE 8. Number of personnel exiting.

LINE 9. Yes or No if any jumper is wearing CE.

LINE 10. Number of Safeties and airland personnel manifested. Total number, i.e., 12 Lift 1 and 12 Lift 2.

LINE 11. Number and type of equipment being exited, i.e., two door bundles on lead aircraft. Example, 16 CDS, six door bundles.

LINE 12. Number and type of aircraft, i.e., two C-130J-30.

LINE 13. DZ Dimensions. Length and width in yards.

LINE 14. "See sketch in box below."

LINE 15. Example, nine VS-17 panels (international orange) or 10 x covert lighting.

LINE 16. Code letter A, cerise VS-17 panel at bottom left of code letter.

LINE 17. List no drop signals.

- LINE 18. DZ Information. List type of radio(s) (VHF, UHF, etc.) being used and frequency. Visual acquisition aid, i.e., RAM at PPI. MEW equipment, i.e., anemometer and PIBAL.
- LINE 19. With who/organization the airspace was coordinated and contact number. Example Range Schedulers 987-6543, Command Post 123-4567.

LINE 20. USAF Airlift Mission Commander contact information.

LINE 21. U.S. Army Airborne Commander contact information.

LINE 22. U.S. Army DZSO.DZSTL contact information.

LINE 23. Example, AF Form IMT 4304 and FLASH Report.

D-6. JUMPMASTER TEAM SERIOUS INCIDENT BRIEF

JUMPMASTER TEAM SERIOUS INCIDENT BRIEF DATE:

I HAVE BEEN BRIEFED BY THE DACO AND UNDERSTAND WHAT ACTIONS MUST BE TAKEN IN THE EVENT OF A SERIOUS INCIDENT WHILE ON AIR FORCE AIRCRAFT.

LINE #	POSITION	PRI	NTED NAME	SIGNATURE	UNIT

D-7. JM/PILOT BRIEF

- 1. Introduce JM Team.
- 2. Confirm Critical Times.
 - a. ST.
 - b. TO.
 - c. Drop time.
 - d. Time for racetracks.
- 3. Type of Exiting.
 - a. Mass exit.
 - b. ADEPT (1 or 2).
- 4. DZ Information.
 - a. What DZ.
 - b. Code letter.
 - c. Drop heading.
 - d. Drop altitude.
 - e. Drop speed.
 - f. Seconds of green light.
 - g. Type of parachute.
 - h. Current weather conditions on DZ (approval to jump in the rain).
 - i. Location of CARP.
 - j. Method of control (DZSTL/DZC).
- 5. Jumpers (total per pass).
- 6. Emergency Procedures.
 - a. Ground (one long ring) (take all commands from the Loadmaster).
 - b. Crash landing/ ditching (six short rings).
 - c. Emergency bailout (three short rings followed by one long continuous ring).
 - d. Red/amber light procedures.
- 7. Towed Jumper Procedures.
 - a. SL.
 - b. Equipment.
 - c. Identify cutter (Loadmaster for SL, JM for equipment).
 - d. Identify criteria for cutting and retrieval: Airborne Commander's guidance.
- 8. Time Warnings.
 - a. 20 minutes.
 - b. 10 minutes.
 - c. One minute.
 - d. Time between passes.
- 9. Control of Paratroop Doors Between Passes/Red/Amber Light Procedures.
- 10. Raising of Seats.
- 11. Retrieval of Deployment Bags (multiple passes).
- 12. Remind Loadmaster to keep JM Team Informed of Changes During Flight.
- 13. Insist at a Minimum the Loadmaster Gives a Troop Safety Briefing for Ground Evacuation
- 14. Time Warnings and Checkpoints. Remember the JM finds their own one minute and 30-second reference points. For the one-minute reference point, measure back 4,000 meters (1:50,000 Map) or 4,500 yards (DZ photo mosaic). For 30-second reference point measure back 2,000 meters (1:50,000 Map) or 2,250 yards (DZ photo mosaic) from the lead edge of the DZ.

D-8. UNIVERSAL FLASH REPORT

- 1. It is the responsibility of the DZSTL/DZSO to communicate the Strike Report and a verbal account of the airborne operation to the DACO IAW with this Appendix and Chapter 7 of the CAASOP. The FLASH Report, Malfunctions Report, and any pertinent DACO forms will be validated by the Air Shop.
- 2. FLASH Reports must be sent quickly to be effective. If the FLASH Report is not complete within one hour, an initial FLASH Report will be sent with all information available at the time. This applies to both local and off post operations. The DACO will submit a final FLASH Report in its entirety as soon as it is available.
- 3. In the event a serious incident occurs during an airborne operation, to include PAX parachute or HE malfunctions, it is unlikely the DACO will be able to submit a completed FLASH Report within one hour. PAX evacuated, malfunctions, off DZ strikes, red/amber light exits, SL injuries, and issues with the parachute all require detailed and documented accounts from PAX on the DZ and in the aircraft. The DACO will immediately notify the Air Shop/GLO of the serious incident and keep them updated as they complete the necessary reports and collect the necessary documentation, e.g., sworn statements.
- 4. Airborne operations involving a MACO in conjunction with a DACO regardless of if they are off post or local operations will not change the responsibilities of the DACO or the DZSO concerning the FLASH Report. The MACO will assist the DZSO in compiling and sending accurate information to the DACO.
- MACO only operations. For airborne operations where a DACO is not necessary the MACO will assume all responsibilities of the DACO. Reference Chapters 2 and 7 for duties and responsibilities of the DACO and MACO.

An ADACO will not serve as a MACO. An ADACO will execute their duty at DAF in support of the DACO.

- 6. Filling out the FLASH report.
 - a. FLASH Reports can be completed and submitted through: <u>https://army.deps.mil/Army/CMDS/CASCOM_QM/ADFSD/ADMMO/Lists/AIRBORNE%20OPERATION</u> <u>%20FLASH%20REPORT/Default%201.aspx</u>. You must use your email certificate to log in.
 - b. Ensure all blocks are filled, including N/A or NONE as required.
 - c. Unit designation: List the specific unit(s) jumping.
 - d. Cancellation of aircraft. State in the summary the number and reason for the planned number of aircraft being less than the actual number of aircraft utilized in the operation. Aircraft can only be designated as canceled if the cancelation was declared by the home station of that aircraft. Once the aircraft arrives to departure airfield the reason for that aircraft not continuing its mission will be given in the summary of the FLASH Report. This is considered an unusual incident and will be submitted as such (e.g. maintenance cancellation, written as 1 x C-130 CNX MX, etc.).
 - e. Aircraft Utilization. Alibis include all manifested jumpers that returned to departure airfield and did not exit as planned. Jump Refusals are considered alibis. Airlands include manifested PAX that will not exit the aircraft, e.g., medics, Parachute Rigger support. Alibis will be annotated on the Aircraft utilization worksheet in the FLASH Report. Include the number of jumpers and a reason why.
 - f. Sworn Statements. Sworn statements will be collected when the following incidents occur during an airborne operation: parachute malfunction, activation of a parachute inside the aircraft, jump refusal, red/amber light or early exits, towed jumper, SL injury, loss of life, limb or eyesight, MEDVAC of unconscious jumper. In addition, if the air crew fails to provide agreed upon information, the air crew creates or causes an unusual incident, or the air crew fails to explain the reason for jump termination you will submit sworn statements of U.S. Army PAX that have information pertaining to the incident.

- i. Drop Altitudes: Minimum of 1,000 feet AGL for T-11, 1250 feet AGL for MC-6. If the drop altitudes do not match the parachute type, state why.
- ii. For HE, check to ensure the number of platforms dropped equals all that were on the aircraft. Explain, in the summary, the nature of any HE platforms/drop issues resulting in the failure of that mission's success (e.g., one HMMWV damaged on DZ due to parachute malfunction).
- iii. When receiving reports of door bundle operations, state the number of bundles on page 1 of the FLASH Report (i.e., 3 X C-130s with door bundles on each aircraft would be reported as 2 door bundles each). If a door bundle does not drop, state why.
- iv. If PAX or equipment land in the trees, the DZSO must determine whether or not the airborne operation was off the surveyed DZ; and whether or not any PAX were injured. For those PAX off the DZ, a 10-digit grid coordinate is required with the name of the individual reporting. If a stick of jumpers is off the DZ, obtain a 10-digit grid coordinate to the first, middle and the last jumper. All grid coordinates must be obtained by means of a GPS.
- v. Summary Section. An unusual incident is anything that happens that was not scheduled on the air letter. Get statements from key PAX involved before they are released. Answer Who, What, When, Where and Why. Ensure the correct terminology is used. "NO DROP" means that the aircraft flew over the DZ without dropping. "ABORT" means the aircraft took off but did not reach the DZ. "CANCEL" means the aircraft never left the ground. Aircraft reliability issues should be documented. In the event of a paratroop door being unserviceable, the DACO should ascertain the technical reason why and if able, take photographs of the malfunctioning paratroop door to give to the GLO. The specific aircraft tail number should be annotated.
- vi. Include the DZSO's and DACO's name, rank and unit on Line 13.
- vii. The DACO and the GLO are released once the last FLASH Report for the day has been received. The DACO must ensure they have all the required information before the DZSO is released.
- viii. Malfunction Report. In the event of a parachute malfunction the Malfunction Officer will inform the DZSO of the type of malfunction, who will then inform the DACO and subsequently the GLO or ALCE on duty. The Parachute Incidents form in the FLASH Report will include: name, SSN, unit, chalk, position in stick, description of the malfunction, and actions taken. Additionally, the Malfunction Officer will follow the procedures outlined in AR 59-4 for further reporting of the malfunction.

D-9. AF IMT 4304, DROP ZONE / LANDING ZONE CONTROL LOG

- 1. DATE. Enter date and year. Use either calendar or Julian date. When a "time" is required use local or Greenwich Mean Time (GMT) consistent with the date.
- 2. LOCATION. Enter DZ name.
- 3. CCT AND UNIT. DZSTL name and unit.
- 4. DZ/LZ CONTROL OFFICER AND UNIT. Self-explanatory.
- 5. DZSO AND UNIT. Self-explanatory.
- 6. LINE NO. Mission sequence number of each aircraft.
- 7. TYPE AIRCRAFT. Mission design series.
- 8. UNIT. Unit of aircraft.
- 9. CALL SIGN. Call sign of lead and, if applicable, formation position number.
- 10. TYPE MSN. Refer to LEGEND for abbreviations.
- 11. ETA. Estimated time of arrival, estimated TOT, or S-3 air brief. Keep the unit of time consistent throughout the form (e.g., local or GMT).
- 12. ATA/ATD. Actual time of arrival for every pass or actual time of departure.
- 13. STRIKE REPORT.
- (1) YDS. Distance first jumper/container/pallet lands from PPI in yards. If within 25 yards it is scored a PPI.
- (2) CLOCK. Use direction of flight as 12 o'clock and back its azimuth as 6 o'clock, estimate direction from PPI to first jumper/container/pallet. If time and conditions permit, the actual measurement is preferred.
- 14. LZ. Mark the "S" box if a landing occurred between the beginning of the touchdown zone and the first 500 feet. If the landing was not successful (i.e., go-around), short of the touchdown zone, or 500 feet beyond the beginning of the touchdown zone, mark the "U" box and provide comments in the REMARKS box.
- 15. SURF WIND. Surface wind direction in degrees, and velocity in knots.
- 16. SCORE METHOD. Refer to LEGEND for abbreviations.
- 17. MEAN EFFECTIVE WIND. Time taken and at what altitude.
- 18. TIME. Self-explanatory.
- 19. ALT. Should be drop altitude.
- 20. DIR & LVL. Wind direction in degrees and velocity in knots.
- 21. REMARKS. Enter remarks as appropriate.

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D-10. SERIOUS INCIDENT CHECKLIST FOR DACO'S (EXAMPLE)

Attention: Whenever there is a serious incident, follow this checklist form to ensure all of the appropriate PAX are notified and all the appropriate paper work is filled out.

Collect statements from the following that apply:

	NAME	CONTACT NUMBER
Notified Air Shop/GLO.		
DZSO/DZST's Statement.		
Safety's Statement.		
JM's Statement.		
Number One Jumper's Statement (Amber light exit).		
Involved Jumper Statement.		
Jumper in Front (SL Injury).		
Jumper Behind (SL Injury).		
Medic Statement (SL/ Parachute Injury or Aerial MEDEVAC).		
Parachute Rigger's Statement (Parachute Malfunction or Jump Refusal).		
Malfunction Officer.		
DACO.		

Jumper Status:

\checkmark			
		NAME	DATE & TIME
	Notified Governing Operations Center.		
	Notify the Chain of Command.		

All statements will be on DA Form 2823, sworn statements if situation allows.

- 1. All serious incidents must be reported to the Air Shop, do not turn over statements to anyone else. If unsure as to what statements are required for a certain incident contact the Air Shop.
- 2. Contact the unit representative or Airborne Commander to get the required information to complete the report. DO NOT release the DZSTL/DZSO until the user unit has provided this information via the DZSTL/DZSO to the DACO.

D-11. AIRDROP SERIOUS INCIDENT REPORT (EXAMPLE).

- 1. TYPE OF INCIDENT. COMPLETE ONE SHEET FOR EACH TYPE OF INCIDENT. CHECK THE TYPE OF INCIDENT AND APPLICABLE INFORMATION.
 - a. OFF DZ STRIKE DPERSONNEL DHEAVY EQUIPMENT DCDS DOTHER
 - b. Type of Parachute Malfunction:
 - i. TOTAL D PARTIAL D
 - ii. PERSONNEL
 HEAVY EQUIPMENT
 CDS
 OTHER
 - c. Towed Jumper/Platform (equipped with EPJS): RETRIEVED
 CUT AWAY
 - Grid Location of Cut Away from Aircraft: i.
 - d. Personnel Injury Involving: AERIAL MEDEVAC DEATH
 - e. Equipment Damage Information:
 - i. EQUIPMENT IS INOPERABLE
 - ii. REQUIRES TOWING OR EXTRACTION
 - EXTENSIVE DAMAGE OVER \$500.00 iii.

2. CRITICAL INFORMATION.

- a. DZ: (DZ Name; or 8 Digit Grid):__

- - i. Total Number of Aircraft in Formation:
 - Aircraft Position in Formation (aircraft directly involved in the incident): ii.
- e. Aircraft Tail Number and Chalk Number: _
- f. Type of Drop: STATIC LINE | HALO | HE | CDS | COMBINATION |
- g. Circle Method of Release: CARP
 GMRS
 VIRS
- h. Drop Altitude (AGL):
- i. ON DZ STRIKE (location in relation to the PPI/HEPI): Clock Direction: Distance:
- OFF DZ STRIKE (use GPS for 10 digit grids):_____ j.

*If a stick of jumpers lands off the DZ, obtain a 10 digit grid to the first, middle and last jumper.

- Location Closest to DZ: Grid: i. Cardinal Direction: Distance:
- Location of Center Mass: Grid:_____ ii. Cardinal Direction: Distance:
- iii. Location Farthest From the DZ: Grid: _____ Cardinal Direction: Distance:
- k. Reservation (state if incident was on or off the military reservation): ON OFF
- I. U.S. Army User Unit Identification:
- m. Name, Unit, and Work Phone of DZST reporting the Incident:

3. **PERTINENT PERSONNEL AIRDROP INFORMATION** (relay when available)

- a. DOOR EXITED: RIGHT LEFT _____
- b. CHALK POSITION:
- c. SPECIAL EQUIPMENT: _____

4. OTHER PERTINENT INFORMATION:

5. FINAL DISPOSITION INFORMATION (Investigation In-Process, Completed, Hospitalization, or any detailed information as it becomes available):

Attachments:

- FLASH REPORT
- DZSO/DZSTL STATEMENT
- □ JUMPMASTER STATEMENTS
- □ SAFETY STATEMENTS
- AIRCREW STATEMENTS
 PILOT
 CO-PILOT
 NAVIGATOR
 LOADMASTERS
- □ AIR SHOP STATEMENT

D-12. FLA LOAD PLAN



* AIR CONDITIONING AND HEATER UNITS MUST BE WORKING TO BE CONSIDERED FULLY MISSION CAPABLE.

* COOLER FOR ICE SHEETS DURING SUMMER MONTHS

(May be in patient compartment and used as Jump Seat for Medic)

 1. Rear Wall of Litter Berth a. Four D-sized Oxygen Tanks (Two each per side). b. Four Non-rebreather Masks (One per tank). c. Four Bag-valve Masks (One per tank). d. Four Nasal Cannulas (One per tank). e. Four Oxygen Regulators (One per tank). f. Four Oxygen Wrenches (One per tank). c. Four Oxygen Wrenches (One per tank). 2. Litter Berth and Spare Litter Compartment a. Four Litters (One per side, Two in spare). b. 8 Litter Straps (Two per litter). 3. Right and Left Litter Berth Walls a. Three Spider Straps (One per spine Board). c. Three C Collars. 4. Compartment Beneath Right Litter Berth a. Seven Boxes. b. Three Spider Straps (One per spine Board). c. Three C collars.
 b. Four Non-rebreather Masks (One per tank). c. Four Bag-valve Masks (One per tank). d. Four Nasal Cannulas (One per tank). e. Four Oxygen Regulators (One per tank). f. Four Oxygen Wrenches (One per tank). f. Four Oxygen Wrenches (One per tank). c. Four Oxygen Wrenches (One per tank). d. Four Oxygen Wrenches (One per tank). e. Four Oxygen Wrenches (One per tank). c. Four Oxygen Wrenches (One per tank). d. Four Oxygen Wrenches (One per tank). e. Four Oxygen Wrenches (One per tank). d. Four Oxygen Wrenches (One per tank). e. Four Oxygen Wrenches (One per tank). d. Four Oxygen Wrenches (One per tank). e. Four Oxygen Wrenches (One per tank). d. Four Cric Kit. e. One Roll of 1 in Tape. d. Four NCD. b. Three Spider Straps (One per spine Board). c. Three C Collars. 4. Compartment Beneath Right Litter Berth a. Seven Boxes.
 Four Bag-valve Masks (One per tank). Four Nasal Cannulas (One per tank). Four Oxygen Regulators (One per tank). Four Oxygen Wrenches (One per tank). Litter Berth and Spare Litter Compartment Four Litters (One per side, Two in spare). 8 Litter Straps (Two per litter). Right and Left Litter Berth Walls Three Spine Boards with Head Blocks (One-Two per side). Three C Collars. Compartment Beneath Right Litter Berth Seven Boxes. Airway Box. Four King LT. Four OPA. Four OPA. Four Cric Kit. One Roll of 1 in Tape. Breathing Box. Eight Occlusive Dressing. Four NCD. One Roll of Three-Inch Tape.
 a. Four King LT. b. Four Oxygen Regulators (One per tank). c. Four Oxygen Wrenches (One per tank). d. Four OPA. d. Four Cric Kit. e. One Roll of 1 in Tape. d. Four Neal d. Four Cric Kit. e. One Roll of 1 in Tape. f. Four NcD. b. Three Spider Straps (One per spine Board). c. Three C Collars. c. Three C Collars. d. Four NcD. <li< th=""></li<>
 b. Four OPA. c. Four Oxygen Wrenches (One per tank). f. Four Oxygen Wrenches (One per tank). c. Four Litters (One per side, Two in spare). b. 8 Litter Straps (Two per litter). c. Three Spine Boards with Head Blocks (One-Two per side). b. Three Spider Straps (One per spine Board). c. Three C Collars. c. Three C Collars. d. Four OPA. d. Four OPA. d. Four Cric Kit. e. One Roll of 1 in Tape. 2. Breathing Box. a. Eight Occlusive Dressing. b. Four NCD. c. Three C Collars. c. Three C Collars. d. Four OPA. d. Four OPA. d. Four OPA. d. Four OPA. d. Four Cric Kit. e. One Roll of 1 in Tape. 2. Breathing Box. a. Eight Occlusive Dressing. b. Four NCD. c. One Roll of Three-Inch Tape. 3. Major Bleeding Box. a. Eight Tourniquets.
 f. Four Oxygen Wrenches (One per tank). 2. Litter Berth and Spare Litter Compartment a. Four Litters (One per side, Two in spare). b. 8 Litter Straps (Two per litter). 3. Right and Left Litter Berth Walls a. Three Spine Boards with Head Blocks (One-Two per side). b. Three Spider Straps (One per spine Board). c. Three C Collars. 4. Compartment Beneath Right Litter Berth a. Seven Boxes. c. Four NPA. d. Four Cric Kit. e. One Roll of 1 in Tape. 2. Breathing Box. a. Eight Occlusive Dressing. b. Four NCD. c. One Roll of Three-Inch Tape. 3. Major Bleeding Box. a. Eight Tourniquets.
 2. Litter Berth and Spare Litter Compartment a. Four Litters (One per side, Two in spare). b. 8 Litter Straps (Two per litter). 3. Right and Left Litter Berth Walls a. Three Spine Boards with Head Blocks (One-Two per side). b. Three Spider Straps (One per spine Board). c. Three C Collars. 4. Compartment Beneath Right Litter Berth a. Seven Boxes.
 a. Four Litters (One per side, Two in spare). b. 8 Litter Straps (Two per litter). 3. <u>Right and Left Litter Berth Walls</u> a. Three Spine Boards with Head Blocks (One-Two per side). b. Three Spider Straps (One per spine Board). c. Three C Collars. 4. <u>Compartment Beneath Right Litter Berth</u> a. Seven Boxes.
 b. 8 Litter Straps (Two per litter). 3. <u>Right and Left Litter Berth Walls</u> a. Three Spine Boards with Head Blocks (One- Two per side). b. Three Spider Straps (One per spine Board). c. Three C Collars. 4. <u>Compartment Beneath Right Litter Berth</u> a. Seven Boxes.
 3. <u>Right and Left Litter Berth Walls</u> a. Three Spine Boards with Head Blocks (One- Two per side). b. Three Spider Straps (One per spine Board). c. Three C Collars. 4. <u>Compartment Beneath Right Litter Berth</u> a. Seven Boxes.
 a. Three Spine Boards with Head Blocks (One- Two per side). b. Three Spider Straps (One per spine Board). c. Three C Collars. 4. <u>Compartment Beneath Right Litter Berth</u> a. Seven Boxes.
per side).b.Four NCD.b.Three Spider Straps (One per spine Board).c.Compartment Beneath Right Litter Bertha.Seven Boxes.3.Major Bleeding Box.a.Seven Boxes.a.Eight Tourniquets.
b. Three Spider Straps (One per spine Board). c. One Roll of Three-Inch Tape. c. Three C Collars. 3. Major Bleeding Box. a. Seven Boxes. a. Eight Tourniquets.
 c. Three C Collars. 4. <u>Compartment Beneath Right Litter Berth</u> a. Seven Boxes. 3. Major Bleeding Box. a. Eight Tourniquets.
a. Seven Boxes. a. Eight Tourniquets.
a. Seven boxes.
b. Cight Kerlex.
Meds Solinting, Major Bleed, Millor Bleed, c. Eight Pressure Bandages.
c. See Box Packing List.
5. Rear Left Compartment
a. Four Blankets / Hypothermia Kits.
b. HLZ Kit (Suspended).
i. Five VS-17 Panels with Stakes (20).
ii. Hammer.
iii. Chemlights x 10. d. One Roll of 1 in Tape.
6. <u>Hanging Above Right and Left Upper Litter Berths</u> 5. Meds Box.
a. Two Fluid Kits. a. One Box of Ibuprofen.
b. Two Trauma Snears. b. One Box of Acetaminophen.
c. One Box Triple
b. Vital Signs Monitoring Equipment & AED Antibiotic Cream.
8. Rear Right Shelf
a. Two Pelvic Slings.
b. Two Traction Splints (One Reel, One CT6).
9. <u>Rear Left Netting</u>
. Medic Aid Bag(s).
10. Top Right Litter Rack
i. 10 Saline Locks.
* Three litter straps in lieu of spider straps may be used. j. One Portable Sharp Container.
storage saving 6. Splinting Box.
a. 10 Sam Splints.
*** Sphygmomanometer, Stethoscope, b. 10 Cravats.
Thermometer, Pulse Ox, 10TC3 Cards, Shrpie.
ADDITIONAL REQUIRED ITEMS:
Pour Large Orange/RED disposable bags to store
20 Toe/Shoe tags for equipment labeling i.e.
weapons, NVG's, boots.
D. Four - Lacialed Ringer 1,000ml
d. Six IV Administration Set.
e. I wo I.O. Administration Set.

8

6

7

b. SAM Splint x Four c. Pelvic Strap x One d. TCCC Cards x10

9

D-13. MEDICAL AID BAG PACKING LIST



***IN-FLIGHT MEDICS SHOULD ALSO HAVE A COOLER FOR ICE SHEETS** 1 April – 31 October

D-14. JM CONTINUITY MEMORANDUM

1. A fillable PDF version of the JM continuity memorandum is available on the USAAAS DEPS Page, <u>https://army.deps.mil/army/cmds/82ABD/HHBN/USAAAS/SitePages/Home.aspx</u>.

KIPLY TO ATTENTION OF	DEPARTME	INT OF THE ARMY		
AFVC-HAS]		25 January 2017	
MEMORANDUM I SUBJECT: Transfer	FOR THE GAINING UNIT OF: ring a Jump Log Record of a Curre	nt and Qualified Jumpmz	nster (JM)	
 This memorand initiate the gaining u Change of Station (i deciding what level their new unit. The u any general commen JM's overall profici- guidance. Rank Full name 	um may be provided to a gaining un mit's integration policy for a curren PCS). The information provided in t of training and validation is require required information includes the da ats the leadership of the losing unit ency. Reference Chapter 2-7d and .	nit by the commander of t it and qualified JM condu- this memorandum will ai d before the incoming JN ate and type of the latest J wants to pass on to the g Appendix I-1 of the CAA	the losing unit IOT a Permanent d the gaining unit in f performs JM duties at JM duties performed and aining unit regarding the ASOP for additional	
 Date and type of 	f duty last performed.			
1. Saf	ety 14 August 2016 - C130	4. DZSO May 9 2016		
2. Ass	istant JM 25 September 2016 - C130	5. DZSTL **		
3. Prir	01 December 2006 - C1047	6. DACO 23 February	2016	
 General comme 	nts of overall proficiency and curre	ncy.		
is a seni duties of Safety, AJ, and will require DZS knowledgeable on co limited knowledge in	ior rated JM with six years of exper PJ, DACO, DZSO, and DZSTL; ho O/DZSTL refresher training at the subat equipment and parachute syst a artic operations to include the equi	ience as a JM. He is very wever, he is not a curren gaining unit is tems but has never served ipment used.	r proficient in the t DZSO/DZSTL highly l in 4-25 th and has	
's last duty was on 1 December, 2016 on a CH-47 and will lose his JM currency if he does not perform a JM duty on a fixed wing high performance aircraft by 1 June, 2017.				

5. Point of contact is ______ S-3 Air NCOIC at (000) 000-0000.

LTC, IN Commanding

D-15. BRIGADE JUMPMASTER RECEPTION AND INTEGRATION PROGRAM (EXAMPLE)

Jumpmaster Reception/Integration Program

Jumpmaster Reception and Integra	ation Program for:	
Date of Last Duty:		
Type of Last Duty:		
Date of Arrival:		
Assigned MJM/Evaluator:		
Restrictions:		

- The first duty for incoming JMs must be either a Safety or AJ and executed from a high performance aircraft.
- Incoming JMs must first shadow a DZSO or DZSTL and receive unit/environment specific training prior to conducting a duty as a DZSO or DZSTL.

The following four evaluations **must be** completed prior to a newly assigned JM conducting their first JM duty at their gaining unit. The evaluator must be a unit MJM (see CAASOP Paragraph 2-17) or designated by the unit Commander and is responsible for validating the incoming JM's proficiency.

- 1. **Jumpmaster Personnel Inspection**: Must perform JMPI while being observed by the evaluator. It is the responsibility of the MJM/evaluator to identify and correct deficiencies with sequence and procedures before allowing the JM to conduct JMPI unobserved.
- 2. Unit specific equipment and SOPs: All individual equipment unique to the mission of the unit.
- 3. SERJTE: The JM will be evaluated on their understanding and the proper execution of the SERJTE briefing.
- 4. **PWAC**: The JM will demonstrate how to properly conduct actions in the aircraft for the Jumpmaster and the Safety. Emphasis will be placed on the Safety duties and static line control. All environmental considerations specific to the unit must be discussed during this training. All additional training is at the discretion of the appointed Commander, MJM, or assigned evaluator and may include the following **(all training is optional)**.
- 5. Pre-Jump: The new JM must recite Pre-jump and demonstrate confidence while doing so.
- 6. **Parachute Landing Falls (PLF):** The JM must demonstrate working knowledge of how to properly conduct PLFs, and to instruct jumper performance of PLFs, during Sustained Airborne Training (SAT).
- 7. Additional Items: The JM receives instruction on any additional items that are identified as "best practices" or any changes to the ASOP. Also, new items of equipment should be discussed at this time.
 - a. Door Bundles: Rigging, inspecting, and exiting door bundles.
 - b. **Standard/Common loads:** The JM must be briefed on the Unit's typical loads and their approved configurations.
 - c. **Special Items of Equipment**: The JM must be briefed and demonstrate proficiency in the rigging and inspection of all Special Items of equipment (i.e. M3 MAAWS, SMJP, etc.) or jumpable packs within the formation.

8. Safety duties:

- a. Aircraft inspection: Inspect aircraft with an experienced Safety using aircraft inspection checklist.
- b. Jumper seating: Receive instruction on properly seating jumpers.
- 9. DZSO/DZSTL. Discuss all unit specific considerations to executing these duties.
- 10. DACO/MACO. Discuss all unit specific considerations to executing this duty.
- 11. **New Jumpmaster Graduates:** New graduates of the Jumpmaster Course will stay enrolled in the Reception and Integration Program through the completion of their baseline requirements of 2x Safety Duties and 1x AJ Duty. The second Safety and first AJ duty should be completed under the supervision of any appointed MJM (not necessarily the assigned Mentor).

12. Evaluated By:_

(MJM Sign/date) Upon

- completion of the checklist, this document will be distributed as follows:
- One copy to the Jumpmaster's Individual Jump Record
 One copy to the Battalion S-3 Air
- One copy to the Brigade S-3 Air

D-16. FOREIGN JUMPER REQUEST TO USAF MAJCOM (EXAMPLE)

DEPARTMENT OF THE ARMY Your Unit Here 82nd Airborne Division Fort Bragg, North Carolina 28310-5100

Unit Office Symbol

11JUL02

MEMORANDUM FOR A C of S, G3 (AIR), ATTN: Major Ramsey.

SUBJECT: Qualification Verification for Foreign Unit Designation Jumpers to Perform Airborne Operations with the Your Unit, Fort Bragg, NC.

- Unit CDR (BN CDR or Higher), CDR for the Country, Unit Designation has authorized soldiers of the Unit Designation to conduct airborne operations with the Your Unit, Fort Bragg, NC. Unit CDR further verifies that his troops are properly and efficiently trained in all aspects of basic military parachuting in the standards therefore set by the Country Army.
- Unit CDR has authorized soldiers of the Unit Designation to conduct basic airborne operations on Fort Bragg proper drop zones (DZ); he further has granted the authority for the Country Army military personnel to conduct basic military parachuting utilizing USAF aircraft. An interpreter <u>will/is not needed</u> be provided by the hosting to assist in relaying jump commands and emergency information.
- Unit CDR has authorized a Foreign Wing Exchange with the visiting Country paratroopers and the involved Your Unit paratroopers.
- 4. All personnel assigned and/or attached to the Unit Designation of Country are members of the Country Military and are visiting Fort Bragg and the Your Unit for the purpose of conducting tactical military training, and therefore all personnel are covered by orders authorizing there existence in the U.S.
- The Brigade Commander of the Your Unit, Fort Bragg, N.C. has fully endorsed and approved any/all airborne operations and training conducted jointly by U.S. and Country military forces in and around the Fort Bragg training areas.
- 6. POC for this memorandum is Whoever or Whatever at 910-432-XXXX.

Brigade/Separate BN CDR. COL, IN Commanding

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• Appendix E. Pre-Jump

E-1. PRE-JUMP (T-11 ATPS)

The first point of performance is **PROPER EXIT, CHECK BODY POSITION, AND COUNT**.

JUMPERS HIT IT. Upon exiting the aircraft, snap into a good tight body position. Keep your eyes open, chin on your chest, elbows tight into your sides, hands on the end of the reserve parachute, with your fingers spread. Bend forward at the waist, keeping your feet and knees together, knees locked to the rear, and count to 6000.

At the end of your 6000 count, immediately go into your second point of performance, CHECK CANOPY, GAIN CANOPY CONTROL AND IMMEDIATELY COMPARE YOUR RATE OF DESCENT WITH YOUR FELLOW JUMPERS.

Reach up to the elbow-locked position and secure the front set of risers in each hand, simultaneously conducting a 360-degree check of your canopy. Your slider will be fully extended and begin to slide down the suspension lines. Move immediately into comparing your rate of descent with your fellow jumpers. If you are falling faster than your fellow jumpers or you cannot compare your rate of descent, activate your reserve parachute using the pull drop method. If, during your second point of performance, you find that you have twists and you are not falling faster than fellow jumpers, reach up and grasp a set of risers in each hand, thumbs down, knuckles to the rear. Pull the risers apart and begin a vigorous bicycling motion. When the last twist comes out, immediately check canopy and gain canopy control.

Your third point of performance is, **KEEP A SHARP LOOK OUT AT ALL TIMES AND CONSTANTLY COMPARE YOUR RATE OF DESCENT**.

Remember the three rules of the air and repeat them after me. ALWAYS LOOK BEFORE YOU SLIP, ALWAYS SLIP IN THE OPPOSITE DIRECTION TO AVOID COLLISIONS, and THE LOWER JUMPER ALWAYS HAS THE RIGHT OF WAY. Avoid fellow jumpers all the way to the ground by maintaining a 25-foot separation and continue to compare your rate of descent with fellow jumpers. During your third point of performance, release all appropriate equipment tiedowns.

This brings you to your fourth point of performance, which is **PREPARE TO LAND**.

At approximately 100 feet above ground level or tree top level, look below you to ensure there are no fellow jumpers and lower your equipment, then slip into the wind. Attempt to utilize the slip assist loops or slip assist tabs, and execute a one riser slip opposite your direction of drift. You will execute a one riser slip by grabbing 1-3 arm lengths, depending on the wind and hold it deep into your chest until you land. If the wind is blowing from your left, reach up with your left hand and grab either riser on the left side and pull a 1-3 arm lengths slip deep into your chest until you land. If the wind is blowing from your right, reach up with your right hand and grab either riser on the right side and pull a 1-3 arm lengths slip deep into your chest until you land. If the wind is blowing from your right, reach up with your right hand and grab either riser on the right side and pull a 1-3 arm lengths slip deep into your chest until you land. If the wind is blowing from your right, reach up with your right hand and grab either riser on the right side and pull a 1-3 arm lengths slip deep into your chest until you land. If you decide to pull a two-riser slip, secure the risers opposite your direction of drift, and pull them deep into your chest. After you have slipped into the wind, you will assume a landing attitude by keeping your feet and knees together, knees slightly bent, elbows tight into your sides, with your chest and execute a proper Parachute Landing Fall.

The fifth point of performance is **LAND**.

You will make a proper Parachute Landing Fall by hitting all five points of contact. Touch them and repeat them after me. **BALLS OF YOUR FEET, CALF, THIGH, BUTTOCKS, AND THE PULL UP MUSCLE**. You will never attempt to make a standing landing. Remain on the ground and activate both of your canopy release assemblies using either the **HAND TO SHOULDER METHOD** or the **HAND ASSIST METHOD**.

To activate your canopy release assembly using the hand to shoulder method, reach up with either hand and grasp the corresponding safety clip. Pull out and down on the safety clip, exposing the cable loop. Insert the

thumb, from bottom to top, through the cable loop. Turn your head in the opposite direction and pull out and down on the cable loop.

To activate your canopy release assembly using the hand assist method, reach up and grasp the corresponding safety clip. Pull out and down on the safety clip, exposing the cable loop. Insert the thumb, from bottom to top, through the cable loop. Reinforce that hand with the other. Turn your head in the opposite direction and pull out and down on the cable loop. Place your weapon into operation and remove the parachute harness.

The next item I will cover is **RECOVERY OF EQUIPMENT**.

Once you are out of the parachute harness, remove all air items from the equipment rings. Unzip and turn the universal parachutist recovery bag right side out. Place the parachute harness inside the universal parachutist recovery bag with the smooth side facing up. Secure the risers and place them under the parachute harness.

<u>Non-tactical:</u> Elongate the suspension lines and canopy, removing all debris. Once you reach the bridle line, secure the drogue parachute and deployment sleeve in one hand and begin to figure eight roll your canopy and suspension lines all the way to the universal parachutist recovery bag, leaving the drogue parachute, deployment sleeve, and bridle assembly on top of the main canopy.

<u>Tactical:</u> Remain on a knee at the universal parachutist recovery bag. Begin pulling the suspension lines and canopy towards the universal parachutist recovery bag, stuffing them in as you go. Place the drogue parachute, deployment sleeve, and bridle assembly on top of the main canopy. Snap, do not zip, the universal parachutist recovery bag.

Place the reserve parachute in the reserve parachute stowage pocket. Secure your equipment, conduct a 360-degree check of your area, and move out to your assembly area.

The next item I will cover is the ACTIVATION OF THE T-11 RESERVE PARACHUTE.

To activate the T-11 reserve parachute, you will use the pull drop method. **JUMPERS, HIT IT**. Maintain a good, tight body position. Grasp the rip cord handle with either hand. Throw your head back and to the rear, pull out on the rip cord handle, and drop it. Your reserve parachute will activate. Ensure neither hand is in front of the reserve parachute as it deploys. After you activate your T-11 reserve parachute, secure the reserve risers. At approximately 200 feet above ground level, slip into the wind, and prepare to land. The next item I will cover is **TOWED JUMPER PROCEDURES**.

JUMPERS, HIT IT. If you become a towed jumper and are being towed by your universal static line modified and are unconscious, you will be retrieved back inside the aircraft. If you are conscious, maintain a good tight body position with both hands covering your rip cord handle and an attempt will be made to retrieve you inside the aircraft. As you near the paratroop door, DO NOT REACH FOR US; continue to protect your rip cord handle. If you cannot be retrieved, your universal static line modified will be cut. Once you feel yourself falling free from the aircraft, count to 6000 and activate your reserve parachute using the pull drop method. If you are being towed by your equipment, regardless of whether you are conscious or unconscious, that item of equipment will be cut or jogged free, and your main canopy will deploy.

The next item I will cover is **MALFUNCTIONS**.

Remember to continue to check your canopy for any damage or irregularities and compare your rate of descent throughout your entire jump. If at any time you cannot compare your rate of descent or you are falling faster than your fellow jumpers, immediately activate your reserve parachute using the pull drop method.

The next item I will cover is **COLLISIONS AND ENTANGLEMENTS**.

JUMPERS, HIT IT. CHECK CANOPY, GAIN CANOPY CONTROL AND IMMEDIATELY COMPARE YOUR RATE OF DESCENT WITH YOUR FELLOW JUMPERS. If you see another jumper approaching, immediately look, and then slip away. If you cannot avoid the collision, assume a spread-eagle body position and attempt to bounce off the jumper's canopy or suspension lines and immediately look, and then slip away. If you pass through the suspension lines, snap into a modified position of attention. With either hand protect your ripcord handle. With the opposite hand attempt to weave your way out of the suspension lines the same way you entered. Once clear, immediately look then slip away. If you become entangled, the higher jumper will climb

down to the lower jumper using the hand under hand method. Once both jumpers are even, they will face each other and grasp each other's left main lift web. Both jumpers will discuss which Parachute Landing Fall they will execute. Both jumpers will conduct the same Parachute Landing Fall. Neither jumper will execute a front Parachute Landing Fall. Both jumpers will continue to observe their canopies all the way to the ground. If one canopy collapses both jumpers will ride the one good canopy all the way to the ground. If both canopies collapse, both jumpers will immediately turn away, in order to create a clear path, and activate their reserve parachute using the pull drop method. Should you find yourself on another jumper's canopy, without rolling, use whatever means necessary to get off of the canopy and immediately activate your reserve parachute. Attempt to avoid the four corner vents on the canopy. Should you fall through a corner vent, stay where you are and be prepared to conduct a Parachute Landing Fall. If you have another jumper on top of your canopy, continually compare your rate of descent. If you are falling faster than fellow jumpers, immediately activate your reserve parachute using the pull drop method.

The next item I will cover is EMERGENCY LANDINGS.

The first emergency landing I will cover is the TREE LANDING.

If you are drifting toward the trees, immediately look then slip away. If you cannot avoid the trees and have lowered your equipment, look below you to ensure there are no fellow jumpers, and jettison your equipment making a mental note of where it lands. If you have not lowered your equipment, keep it on you to provide extra protection while passing through the trees. At approximately 200 feet above ground level, assume a good landing attitude by keeping your feet and knees together, knees slightly bent, and chin on your chest. When you make contact with the trees, rotate your hands in front of your face with your elbows high. Be prepared to execute a proper Parachute Landing Fall if you pass through the trees. If you get hung up in the trees and you do not feel you can safely lower yourself to the ground, stay where you are and wait for assistance. If you decide to climb down, jettison all unneeded equipment. Ensure that you maintain your helmet. Activate the quick release in your waistband. With either hand, apply inward pressure on the rip cord assembly. With the opposite hand, remove the top tuck tab. Maintain steady inward pressure and with the opposite hand insert it behind the rip cord assembly, and apply inward pressure. Grasp the rip cord handle with the opposite hand; pull it and drop it. With both hands, control the activation of the reserve parachute to the ground ensuring that all suspension lines and risers are completely deployed. Disconnect the left connector snap and rotate the reserve parachute to the right. Attach the left connector snap to the triangle link on your right side. Seat yourself well into the saddle. Activate the quick release in the chest strap and completely remove the chest strap from the chest strap friction adapter. Grasp the right main lift web with either hand below the canopy release assembly and with the other hand activate the leg strap ejector snaps and climb down the outside of the reserve parachute. Caution must be taken when climbing down the T-11 reserve suspension lines because of the slippery coating applied to the suspension lines. Remember, when in doubt, stay where you are and wait for assistance.

The next emergency landing I will cover is the WIRE LANDING.

If you are drifting towards wires, immediately look and slip away. If you cannot avoid the wires, look below you to ensure there are no fellow jumpers and jettison your equipment, making a mental note of where it lands. Ensure that you maintain your helmet. Assume a landing attitude by keeping your feet and knees together, exaggerating the bend in your knees, eyes open, chin on your chest with your back arched. Place the palms of your hands high on the inside of the front set of risers with the elbows locked. When you make contact with the wires, begin a vigorous rocking motion in an attempt to pass through the wires. Be prepared to execute a proper Parachute Landing Fall in the event you pass through the wires. If you get hung up in the wires, do not attempt to lower yourself to the ground. Stay where you are and wait for assistance.

The next emergency landing I will cover is the **WATER LANDING**.

If you are drifting towards a body of water, immediately look then slip away. If you cannot avoid the water, look below you to ensure there are no fellow jumpers, lower and jettison your equipment, making a mental note of where it lands. Next, jettison your helmet. Activate the quick release in the waistband. Disconnect the left connector snap and rotate the reserve parachute to the right. Seat yourself well into the saddle and activate the quick release in the chest strap friction adapter. Regain canopy control. Prior to entering the water, assume a landing attitude by keeping your feet and knees together, knees slightly bent, and place your hands on both leg strap ejector snaps. When the balls of your feet make contact with the water, activate both leg strap ejector snaps, arch your back, throw your arms above your head, and slide out of the parachute harness. Be prepared to execute a proper Parachute Landing Fall if the

water is shallow. Swim upwind, or upstream, away from the canopy. If the canopy comes down on top of you, locate a seam, and follow it to the skirt of the canopy.

The next item I will cover is LIFE PRESERVERS.

When jumping a life preserver, and you are unable to slip away from the water, lower your combat equipment, activate your life preserver, then jettison your combat equipment prior to making contact with the water. Be prepared to execute a proper Parachute Landing Fall if the water is shallow. Once in the water, activate both canopy release assemblies.

The next item I will cover is NIGHT JUMPS.

When conducting night jumps, be sure to give your canopy an extra look. If you have any reason to believe you are falling faster than fellow jumpers immediately activate your reserve parachute. Maintain noise discipline and a good interval between fellow jumpers. Be prepared to conduct a Parachute Landing Fall because you will hit the ground approximately 5 to 10 seconds before you think you will.

The next item I will cover is INSTRUMENT METEORLOGICAL CONDITIONS (IMC).

When jumping under IMC, do not lower your equipment until you have passed through the clouds. Do not slip unless you need to avoid a collision. If you have any type of malfunction or any reason to believe you are falling faster than fellow jumpers, immediately activate your reserve parachute using the pull drop method because you cannot compare your rate of descent with fellow jumpers. Ensure you recheck your canopy once you pass through the clouds.

The final item I will cover is **PARACHUTE LANDING FALLS**.

We will now move to the Parachute Landing Fall platform and conduct one satisfactory Parachute Landing Fall in each of the four directions.

E-2. PRE-JUMP (MC-6)

The first point of performance is **PROPER EXIT, CHECK BODY POSITION, and COUNT.**

JUMPERS HIT IT. Upon exiting the aircraft, snap into a good tight body position. Keep your eyes open, chin on your chest, elbows tight into your sides, hands on the end of the reserve, with your fingers spread. Bend forward at the waist keeping your feet and knees together, knees locked to the rear, and count to 4,000.

At the end of your 4,000 count, immediately go into your second point of performance, CHECK CANOPY and GAIN CANOPY CONTROL.

When jumping the MC-6 series parachute, secure a toggle in each hand and pull them down to eye level, simultaneously conducting a 360-degree check of your canopy. If during your second point of performance you find that you have twists, you must compare your rate of descent with your fellow jumpers. If you are falling faster than your fellow jumpers or you cannot compare your rate of descent with fellow jumpers, immediately activate your reserve parachute using the pull drop method. If you are not falling faster than fellow jumpers, then reach up and grasp a set of risers in each hand, thumbs down, knuckles to the rear. Pull the risers apart and begin a vigorous bicycling motion. When the last twist comes out, immediately check canopy and gain canopy control.

Your third point of performance is **KEEP A SHARP LOOKOUT AT ALL TIMES and CONSTANTLY COMPARE YOUR RATE OF DESCENT.** Remember the three rules of the air and repeat them after me. **ALWAYS LOOK BEFORE YOU TURN, ALWAYS TURN IN THE OPPOSITE DIRECTION TO AVOID COLLISIONS, and THE LOWER JUMPER ALWAYS HAS THE RIGHT OF WAY**. Avoid fellow jumpers all the way to the ground by maintaining a 50-foot separation and continue to compare your rate of descent with fellow jumpers.

This brings you to your fourth point of performance which is **PREPARE TO LAND**.

At approximately 250 feet AGL, determine your direction of drift. If the wind is blowing from your left, pull your left toggle down to the elbow locked position. One you are facing into the wind, let up slowly to prevent oscillation. If the wind is blowing from your right, pull your right toggle down to the elbow locked position. Once you are facing into the wind, let up slowly to prevent oscillation. If the wind is blowing from your rear, pull either toggle down to the elbow locked position. Once you are facing into the wind, let up slowly to prevent oscillation. If the wind is blowing from your rear, pull either toggle down to the elbow locked position. Once you are facing into the wind, let up slowly to prevent oscillation. If the wind is blowing from your front, make minor corrections to remain facing into the wind. Look below you to ensure there are no fellow jumpers. Transfer control of one toggle to the opposite hand, so that the other hand is controlling both toggles in front of your face. With the free hand, release all appropriate equipment tie-downs, and lower your combat equipment. Now regain canopy control with both hands. Assume a proper prepare to land attitude by pulling the toggles to the appropriate break position. After you have turned into the wind, you will assume a landing attitude by keeping your feet and knees together, knees slightly bent, elbows tight into your sides, with your head and eyes on the horizon. When the balls of your feet make contact with the ground, put your chin down to your chest and execute a proper PLF.

The fifth point of performance is LAND.

You will make a proper PLF by hitting all five points of contact. Touch them and repeat them after me. **One**, **BALLS OF YOUR FEET**; **two**, **CALF**; **three**, **THIGH**; **four**, **BUTTOCKS**; **and five**, **PULL UP MUSCLE**. You will never attempt to make a standing landing. Remain on the ground and activate one of your canopy release assemblies using either the hand to shoulder method, or the hand assist method. To activate your canopy release assembly using the hand to shoulder method, reach up with either hand and grasp the corresponding safety clip. Pull out and down on the safety clip exposing the cable loop. Insert your thumb, from bottom to top, through the cable loop. Turn your head in the opposite direction and pull out and down on the safety clip exposing the cable loop. Insert your thumb, from bottom to top, through the cable loop. Reinforce that hand with the other. Turn your head in the opposite direction and pull out and pull out and pull out and down on the cable loop. If your canopy fails to deflate, activate the other canopy release assembly. Place your weapon into operation and remove the parachute harness."

The next item I will cover is **RECOVERY OF EQUIPMENT.**

Once you are out of the parachute harness, remove all air items from the equipment rings. Unzip and turn the universal parachutist recovery bag right side out. Place the parachute harness inside the universal parachutist recovery bag with the smooth side facing up and leave the waistband exposed. Secure the risers and place them under the parachute harness.

Nontactical: Elongate the suspension lines and canopy removing all debris. Once you reach the bridle loop, insert your thumb in the bridle loop and begin to roll your canopy and suspension lines in a figure eight all the way to the universal parachutist recovery bag. Route the waistband through the bridle loop, leaving 6 to 8 inches of the waistband exposed.

Tactical: Remain on a knee at the universal parachutist recovery bag. Begin pulling the suspension lines and canopy towards the universal parachutist recovery bag, stuffing them in as you go. Route the waistband through the bridle loop leaving 6 to 8 inches of the waistband exposed.

Snap, do not zip, the universal parachutist recovery bag. Place the reserve parachute in the reserve parachute stowage pocket. Secure all of your equipment, conduct a 360-degree check of your area, and move out to your assembly area.

The next item I will cover is the ACTIVATION OF THE T-11 RESERVE PARACHUTE.

To activate the T-11 reserve parachute, you will use the pull drop method. **JUMPERS HIT IT**. Maintain a good, tight body position. Grasp the ripcord handle with either hand. Throw your head back and to the rear, pull out on the ripcord handle, and drop it. Your reserve parachute will activate. Ensure neither hand is in front of the reserve parachute as it deploys. After you activate your T-11 reserve parachute, secure the reserve risers. At approximately 100 feet AGL, slip into the wind, and prepare to land.

The next item I will cover is TOWED JUMPER PROCEDURES.

JUMPERS HIT IT. If you are being towed by your USLM and are unconscious, you will be retrieved back inside the aircraft. If you are conscious, maintain a good, tight body position with both hands covering your ripcord handle. An attempt will be made to retrieve you inside the aircraft. As you near the paratroop door, do not reach for us, but continue to protect your ripcord handle. If you cannot be retrieved, your USLM will be cut. Once you feel yourself falling free from the aircraft, count to 4,000 and activate your reserve parachute using the pull drop method. If you are being towed by your equipment, regardless of whether you are conscious or unconscious, that item of equipment will be cut or jogged free, and your main canopy will deploy.

The next item I will cover is **MALFUNCTIONS**.

Remember to continue to check your canopy for any damage or irregularities and compare your rate of descent throughout your entire jump. If at any time you cannot compare your rate of descent or you are falling faster than your fellow jumpers, immediately activate your reserve parachute using the pull drop method. If the MC-6 canopy becomes inverted, pulling a toggle will turn you in the opposite direction. Do not activate your reserve parachute unless the canopy was damaged during inversion. If you have broken control lines, you must use your rear risers to turn.

The next item I will cover is COLLISIONS AND ENTANGLEMENTS. JUMPERS HIT IT. CHECK CANOPY and GAIN CANOPY CONTROL.

If you see another jumper approaching, immediately look, and then turn away. If you cannot avoid the collision, assume a spread eagle body position and attempt to bounce off the jumper's canopy or suspension lines, then immediately look, and then turn away. If you pass through the suspension lines and you do become entangled, snap into a modified position of attention. With either hand, protect your ripcord handle. With the opposite hand, attempt to weave your way out of the suspension lines the same way you entered. Once clear, immediately look then turn away. If you become hopelessly entangled, both jumpers will remain where they are, obtain a clear path, and immediately activate their reserve parachutes using the pull drop method.

The next item I will cover is **EMERGENCY LANDINGS**.

The first emergency landing I will cover is the **TREE LANDING**. If you are drifting towards the trees, immediately look, then turn away. If you cannot avoid the trees, and have lowered your equipment, look below you to ensure there are no fellow jumpers and jettison your equipment, making a mental note of where it lands. If you have not lowered your equipment, keep it on you to provide extra protection while passing through the trees. At approximately 100 feet AGL, assume a good landing attitude by keeping your feet and knees together, knees slightly bent, and chin on your chest. When you make contact with the trees, rotate your hands in front of your face with your elbows high. Be prepared to execute a proper PLF if you pass through the trees. If you are hung up in the trees and you do not feel you can safely lower yourself to the ground, stay where you are and wait for assistance.

If you decide to climb down, jettison all unneeded equipment. Ensure that you maintain your helmet. Activate the quick release in your waistband. With either hand, apply inward pressure on the ripcord assembly. With the opposite hand, remove the top tuck tab. Maintain steady inward pressure and with the opposite hand insert it behind the ripcord assembly and apply inward pressure. Grasp the ripcord handle with the opposite hand, pull it and drop it. With both hands, control the activation of the reserve parachute to the ground, ensuring that all suspension lines and risers are completely deployed. Disconnect the left connector snap and rotate the reserve to the right. Attach the left connector snap to the triangle link on your right side. Seat yourself well into the saddle. Activate the quick release in the chest strap and completely remove the chest strap from the chest strap friction adapter. Grasp the right main lift web with either hand below the canopy release assembly, and with the other hand activate the leg strap ejector snaps and climb down the outside of the reserve parachute. Caution must be taken when climbing down the T-11 reserve suspension lines because of the slippery coating applied to the suspension lines. Remember, when in doubt, stay where you are and wait for assistance."

The next emergency landing I will cover is the WIRE LANDING.

If you are drifting towards wires, immediately look, then turn away. If you cannot avoid the wires, look below you to ensure there are no fellow jumpers and jettison your equipment, making a mental note of where it lands. Ensure that you maintain your helmet. Assume a landing attitude by keeping your feet and knees together, exaggerating the bend in your knees, eyes open, chin on your chest, with your back arched. Place the palms of your hands high on the inside of the front set of risers with the elbows locked. When you make contact with the wires, begin a vigorous rocking motion in an attempt to pass through the wires. Be prepared to execute a proper PLF in the event you pass through the wires. If you are hung up in the wires, do not attempt to lower yourself to the ground. Stay where you are and wait for assistance.

The next emergency landing I will cover is the **WATER LANDING**.

If you are drifting towards a body of water, immediately look, then turn away. If you cannot avoid the water, look below you to ensure there are no fellow jumpers, lower and jettison your equipment, making a mental note of where it lands. Next, jettison your helmet, again making a mental note of where it lands. Activate the quick release in the waistband. Disconnect the left connector snap and rotate the reserve parachute to the right. Seat yourself well into the saddle. Activate the quick release in the chest strap, completely removing the chest strap from the chest strap friction adapter. Regain canopy control. Prior to entering the water, assume a landing attitude by keeping your feet and knees together, knees slightly bent, and place your hands on both leg strap ejector snaps. When the balls of your feet make contact with the water, activate both leg strap ejector snaps, arch your back, throw your arms above your head, and slide out of the parachute harness. Be prepared to execute a proper PLF if the water is shallow. Swim upwind, or upstream, away from the canopy. If the canopy comes down on top of you, locate a seam, and follow it to the skirt of the canopy.

The next item I will cover is LIFE PRESERVERS.

When jumping a life preserver and you are unable to slip away from the water, lower your combat equipment, activate your life preserver, then jettison your combat equipment prior to making contact with the water. Be prepared to execute a proper PLF if the water is shallow. Once in the water, activate both canopy release assemblies.

The next item I will cover is NIGHT JUMPS.

When conducting night jumps, be sure to give your canopy an extra look. "If you have any reason to believe you are falling faster than fellow jumpers, immediately activate your reserve parachute. Maintain noise discipline and a good interval between fellow jumpers. Be prepared to conduct a PLF because you will hit the ground approximately 5 to 10 seconds before you think you will.

The next item I will cover is INSTRUMENT METEOROLOGICAL CONDITIONS.

When jumping under IMC, do not lower your equipment until you have passed through the clouds. Do not turn unless you have to avoid a collision. If you have any type of malfunction, or any reason to believe you are falling faster than fellow jumpers, you must immediately activate your reserve parachute using the pull drop method because you cannot compare your rate of descent with fellow jumpers. Ensure you recheck your canopy once you pass through the clouds."

The final item I will cover is **PARACHUTE LANDING FALLS**.

We will now move to the PLF platform and conduct one satisfactory PLF in each of the four directions."

• Appendix F. Jumpmaster Briefs

F-1. BUDDY SYSTEM FOR T-11 ATPS AND MC-6

When demonstrating the Buddy System for Airborne Refresher training a qualified JM and two demonstrators are required.

Each jumper will inspect their own equipment beginning with the T-11 reserve parachute. Inspect both connector snaps to ensure they have spring tension then conduct an overall inspection of the reserve parachute inspecting for any exposed canopy, suspension lines, or risers. Additionally, ensure the reserve parachute is free from any excessive dirt, water, grease, or oil. Then set the reserve parachute off to the side. Then inspect the main parachute by first ensuring a DA Form 3912 is present in one of the two U.S. Army parachute log record stow pockets located on either riser set. If the DA Form 3912 is missing, the main parachute is unserviceable and must be turned in. Next, inspect the static line slack retainer loop to ensure the static line slack retainer bands are present. If the static line slack retainer bands are missing, a Parachute Rigger must be called over to replace them. Finally, conduct an overall inspection of the main parachute inspecting for any exposed canopy or suspension lines and to ensure the pack tray is free from any excessive dirt, water, grease, or oil.

The number one jumper will then rotate the main parachute over so that the USL-M is facing down. Then activate the quick release in the waistband, activate the quick release in the chest strap, activate the left and right leg strap ejector snaps, then lay the parachute harness out. Fully elongate the three points of adjustment, the chest strap and the left and right leg straps. The jumper will then zip, snap, and fold their UPRB.

The T-11/MC-6 main parachute must be sized prior to donning to ensure a proper fit. There are two sizing locations: the diagonal backstraps and the left and right main lift webs. We will first concern ourselves with the diagonal back straps. The diagonal backstraps provide two of the nine points of adjustment on the parachute harness. There are five sizing channels ranging from one through five. The sizing channels adjust the placement of the canopy release assemblies and the pack tray. There is no set size for any jumper however when the parachute harness is properly sized, the canopy release assemblies will rest in the hollows of the jumper's shoulders just below the collar bone and the top of the pack tray will be in alignment with the top of the jumper's shoulders. Although it seems counterintuitive, jumpers in the smallest percentile a size 3 often gets the canopy release assemblies in the proper position. The main lift webs provide two more of the nine points of adjustment. The main lift web may be sized small, medium, or large utilizing the main lift web tuck tab assembly. The main lift webs are adjusted to provide a better fit of the parachute harness relative to the length of the jumper's torso. To adjust the main lift webs, unsnap the snap fastener and remove the tuck tab from the tuck pocket. Secure the main lift web adjustment strap and adjust the length to the desired position. The small setting is set when the main lift web tuck tab assembly is positioned above the chest strap, medium below the chest strap, and large when fully extended. Once the desired size is set place the tuck flap into the appropriate tuck pocket and secure the snap fastener.

At this time, the number one jumper will assume a good high jumper's position. The number two jumper will secure the number one jumper's main parachute by securing the main lift webs just below the diagonal backstrap pads and place it high on the number one jumper's back and with one hand hold the pack tray in place on the number one jumper's back. The number one jumper will secure the chest strap to the chest strap friction adapter by routing the chest strap under the floating metal bar, back over the floating metal bar, then back on to itself forming a quick release. The number one jumper will ensure the quick release in the chest strap is facing towards their left side and secured in the webbing retainer. The number one jumper will then pull the "L" shaped ejector snap pads towards the center of their groin ensuring they are seated flush against their body.

Now with the opposite hand, the number two jumper will hand the number one jumper their UPRB. The number one jumper will place the UPRB horizontal across their lap ensuring the leg strap retainer is horizontal and facing out. The number two jumper will secure the left leg strap with their free hand and visually inspect the left leg strap to ensure it is not misrouted around the saddle and is not twisted, cut, torn, or frayed. The number two jumper will pass the left leg strap between the number one jumper's legs sounding off with "Left Leg Strap". The number one jumper will secure the quick fit V-ring of the left leg strap sounding off with "Left Leg Strap" and with the opposite hand will trace the left leg strap from where it is permanently sewn to saddle to the quick fit V-ring, once again ensuring it is not misrouted around the saddle and free from any twists, cuts, tears, or frays. The number one jumper will then route the quick fit V-ring from bottom to top behind the leg strap retainer and then

secure it to the left leg strap ejector snap. The number two jumper will secure the right leg strap, inspect it, and pass it to the number one jumper in the same manner as the left leg strap. Once the number one jumper has inspected it, they will route the quick fit V-ring from bottom to top behind the leg strap retainer and then secure it to the right leg strap ejector snap.



Once the leg straps are secured, the number one jumper will then grasp the free running ends of both legs straps and pull down removing the slack so that the leg strap ejector snaps rest in front of the pelvic bone. The number two jumper will ensure the top of the pack tray is even with the number one jumper's shoulder. The number one jumper will then route their thumbs from bottom to top through the D-rings and pull downward prior to standing up. Once the number one jumper has stood erect; the number two jumper will remove the slack from the horizontal backstrap by pulling up on the horizontal backstrap on both sides where it emerges from the main lift web. The number one jumper will then remove their thumbs from the D-rings and apply pressure to the main life web just above the L-shaped ejector snap pads. The number two jumper will then pull down on the free running end of the horizontal backstraps removing all the slack; continue to pull down until the number one jumper indicates a snug but comfortable fit has been achieved. The number two jumper will then S-fold or roll the free running end of the horizontal backstraps and secure them in their appropriate webbing retainers, simultaneously the number one jumper will S-fold or roll the excess webbing of both leg straps and secure them in their webbing retainers. The number one jumper will then S-fold ONLY the excess of the chest strap and secure it in the appropriate webbing retainer. The number one jumper **MUST** ensure the tab portion of the free running end of the chest strap is on top and pointed back to the jumper's left. Then the number one jumper will assist the number two jumper in donning and adjusting their main parachute. Once this is complete, both jumpers will stand and face each other and conduct a visual inspection for rigging deficiencies. If no deficiencies are found, both jumpers will sound off with "Clear."

The number two jumper will hand the reserve parachute to the number one jumper and the number one jumper will place it in the crook of their left arm. The number one jumper will trace the free running end of the waistband, removing all the twists, and route the waistband through the waistband retainers on the rear of the reserve parachute. The number one jumper will then secure the connector snaps to the D–rings. The number two jumper will assist the number one jumper by routing the waistband through the waistband adjuster panel and incorporate the two to three finger quick release. The number two jumper will then inspect the quick release in the waistband with the index and middle finger of either hand. The number two jumper is ensuring that the quick release is no less than two fingers, no more than three fingers, and no metal is felt. If metal is felt, the quick release is improper and must be corrected. Additionally, the number two jumper will inspect that the free

running end of the waistband has not been routed through both vertical metal bars of the metal adjuster. If it has, it is an improper quick release and must be corrected. The number one jumper will then assist the number two jumper in donning their reserve parachute. Once this has been accomplished both jumpers will face each other, conduct a visual inspection for any rigging deficiencies, if none are found both jumpers will sound off with "Clear."

To attach the authorized jumpable pack, the number two jumper will secure the combat load by the snap hooks of the adjustable D-ring attaching straps. The number two jumper will secure the snap hooks of the adjustable D-ring attaching straps to the equipment rings ensuring the opening gates are facing towards the jumper. The number two jumper will adjust the length of the adjustable D-ring attaching straps so that the combat load is resting against the bottom of the reserve parachute.

The number two jumper will then attach the number one jumper's MAWC by securing the snap shackle the left equipment ring as the outermost item of equipment with the opening gate towards the jumper. At this time the number two jumper will ensure the top of the MAWC rests above the chest strap and below the canopy release assembly and bottom of the MAWC is no less than six inches from the ground. The number two jumper will then ensure the yellow safety lanyard is secured to the snap fastener that provides it the most slack. The number two jumper will then route the ejector snap of the HPT lowering line from front to rear between the main body of the MAWC and the attachment strap and secure the ejector snap to the left triangle link ensuring the opening gate is facing towards the jumper. The number two jumper will girth hitch a length of 1/4" cotton webbing to the left horizontal backstrap below the rolled portion of the free running end to serve as an upper tie-down tape for the MAWC. The number two jumper will then secure the upper tie-down by routing one end of the upper tie-down tape through the tabbed thong and then through the uppermost vertical nylon equipment hanger. The other end will be routed from bottom to top through the small cut-away portion of the left equipment ring, then secure to itself using a single loop or double loop bowknot on the lead edge of the MAWC.

The number one jumper will then assist the number two jumper in donning and adjusting their combat equipment. Once this has been accomplished, the jumpers are ready for JMPI.

DUE TO VARYING SIZES AND TYPES OF COMBAT EQUIPMENT LOADS, IT IS RECOMMENDED THAT JUMPERS DO NOT FULLY TIGHTEN DOWN THE ADJUSTABLE D-RING/ (EQUIPMENT RING) ATTACHING STRAPS UNTIL AFTER JMPI HAS BEEN COMPLETED.

KEEPING THESE ITEMS LOOSE PRIOR TO JMPI WILL ALLOW THE JM TO EASILY LIFT AND ACCESS AREAS TO BE INSPECTED.

JUMPERMASTERS WILL ASSIST WITH TIGHTENING THE ADJUSTABLE D-RING (EQUIPMENT RING) ATTACHING STRAPS AFTER JMPI PRIOR TO ROUTING THE ADJUSTABLE LEG STRAPS NLT MOVING TO THE AIRCRAFT.

ALL TOBACCO PRODUCTS INCLUDING ALL TYPES OF SMOKELESS TOBACCO ARE PROHIBITED ONCE THE JUMPERS HAVE DONNED THEIR MAIN AND RESERVE PARACHUTES.

ALL FOOD AND DRINKS (MINUS WATER) IS PROHIBITED ONCE THE JUMPERS HAVE DONNED THEIR MAIN AND RESERVE PARACHUTES <u>UNLESS THE AIRBORNE COMMANDER</u> <u>HAS CONDUCTED A DELIBERATE RISK ASSESSMENT AND AUTHORIZES USE.</u>

F-2. SERJTE (HIGH PERFORMANCE AIRCRAFT)

STATIC LINE CONTROL

After the JM issues the command "**hook up**", jumpers will remove the universal static line snap hook from the carrying handle of the reserve parachute. They will hook up to the appropriate anchor line cable with the spring opening gate facing toward the skin of the aircraft. Form a bight in the universal static line modified at eye level making sure they have a good four in the hand and two below bight with the elbow high. Do not touch the double sewn portion, the double sewn portion is for the Safety. Trace the universal static line modified over the appropriate shoulder. The jumper will then trace the universal static line modified has not been misrouted through the riser assembly and is properly routed to the first stow. The jumper will then cover their ripcord handle with their free hand.

EXITING PROCEDURES

On the command of "**stand by**" the number one jumper will extend their arm to the elbow locked position and pass control of their universal static line modified to the Safety. The jumper can place one foot is on the jump platform and the other is inside the aircraft or position themselves as far as two feet back from the center of the jump platform then place both hands on the end of their reserve parachute. As room permits, the remaining Jumpers will extend their arm out to the elbow locked position before they begin to move to the paratroop door. When they near the paratroop door they will make eye to eye contact with the Safety. The Safety will take control of the universal static line modified and the jumper will then place both hands on the ends of the reserve parachute, ensuring that they **DO NOT** swim the universal static line modified, turn at a 90-degree angle into the paratroop door, and make a vigorous exit, up six inches and out 36 inches, and count to 6,000.

RED LIGHT PROCEDURES

There are multiple reasons a red light could come on during flight: out of DZ, obstacles on the DZ, low flying aircraft, rotary wing aircraft, etc. If a red light comes on during exit, the JM will place their hand in the jumper's face and give the command "**red light, red light, red light!**" and push the stick away from the paratroop door. The Jumpers will echo the command so the subsequent jumpers can slow their momentum. If the jumper has already handed off their universal static line modified, and committed to the paratroop door, no one will stop them. The jumper should get a good vigorous exit out of the aircraft and be prepared to avoid any obstacle that caused the red light to come on.

JUMP REFUSALS

If there is a jump refusal inside of the aircraft, the JM will give the command of "green light go" (3 x physical and verbal). If the jumper fails to exit after the third command, the Safety will secure the jumper by the pack tray and tell them: "you are a jump refusal, I am removing you from the paratroop door," and removes the jump refusal from the paratroop door. The Safety will seat the jump refusal on the ramp and give the jump refusal a lawful order to not touch their equipment. The JM team will then continue to exit jumpers if green light permits. Once the paratroop doors are closed, the Safety will unhook the jump refusal's universal static line snap hook and move the jump refusal towards the forward portion of the aircraft. The Safety will then seat the jump refusal, secure their seat belt, and again issue the jump refusal a lawful order of: "do not touch your equipment". Upon landing, the Safety will take positive control of the jump refusal and turn them over to the DACO. The DACO will then conduct a JMPI on the jump refusal, and a Parachute Rigger will conduct a technical inspection of the jump refusal's equipment. If something is found wrong with the equipment no action against the jump refusal will be taken. If no deficiencies are found, the jump refusal will be turned over to the chain of command for appropriate actions IAW unit SOP.

TOWED JUMPER PROCEDURES

If there is a towed jumper, and they are being towed by their universal static line modified, and they are unconscious, the jumper will be retrieved back inside the aircraft. If they are conscious, the jumper should make every effort to maintain a good tight body position with both hands covering the ripcord handle. An attempt will be made to retrieve the towed jumper inside the aircraft. As the towed jumper nears the paratroop door, **do not reach for the JM team**, they will continue to protect their ripcord handle. If the jumper cannot be retrieved inside the aircraft, their universal static line modified will be cut. Once the jumper feels themselves falling free from the aircraft, they will count to 6,000 and activate their reserve parachute using the pull drop method. If a jumper is being towed by an item of equipment, regardless of whether they are conscious or unconscious, that item of equipment will be cut or jogged free, and the jumper's main canopy will deploy.
EMERGENCY PROCEDURES

Accidental activation of a reserve parachute inside the aircraft with the paratroop doors closed. If a reserve parachute is activated inside the aircraft when the paratroop doors are closed, that jumper and every jumper around them will smother that reserve canopy. Once the reserve canopy is contained, the jumpers will get the JMs attention by placing their hand or arm over an anchor line cable. The JM will then replace that reserve parachute, and the airborne operation will continue as planned.

Forward of the wheel well (toward the pilot's compartment). If a reserve parachute is activated inside the aircraft when the paratroop doors are open, and that jumper is forward of the wheel well, that jumper and every jumper around them will smother that reserve canopy. Once the reserve canopy is contained, the jumpers will get the JM's attention by placing their hand or arm over the anchor line cable. The loadmaster will close the paratroop doors, a JM will replace that reserve parachute with a new one, and the remaining jumpers will exit the aircraft on the next pass.

Aft of the wheel well (toward the open paratroop door). If a reserve parachute is activated inside the aircraft when the paratroop doors are open, and the jumper is aft of the wheel well, that jumper and every jumper around them will smother that reserve parachute. Once the parachute is contained, the jumpers will get the JM's attention by placing their hand or arm over the anchor line cable. If the reserve parachute starts snaking towards the paratroop door, the jumper with the activated reserve parachute will sound of with "Reserve, Reserve, Reserve!" That jumper and every jumper in front of them must beat that reserve parachute out of the paratroop door by exiting the aircraft or running onto the ramp. The JM team will not attempt to control your universal static lines modified. Keep in mind, the best way to prevent inadvertent activations is to maintain ripcord handle awareness at all times.

Load all jumpers into the mock up prior to describing alarm bells.

Ground evacuation/Continuous ringing of the alarm bell. Ground Evacuations are conducted prior to takeoff or during take-off when the aircraft is stopped. The sound of **one long ring** from the alarm bell is the command to evacuate the aircraft. JMs are to follow the direction of the loadmaster and move their PAX away from the aircraft.

Crash landing/Ditching/Six short rings of the alarm bell or oral warning. While inside the aircraft **six short rings of the alarm bell or a verbal warning** indicates a crash landing during flight without enough time or altitude to bail out. The jumpers will remain seated and extend their legs out to a 45-degree angle. The jumpers will wrap their arms around their legs and place their head on their knees until the aircraft stops moving. One long continuous ring will sound just prior to impact. Once the aircraft stops moving the jumpers will exit under the direction of the JMs or loadmaster.

Bailout/Three short rings of alarm bell or a verbal warning. While inside the aircraft **three short rings of the alarm bell or a verbal warning** indicates an emergency bailout is imminent. The JMs will issue the jumpers an abbreviated set of jump commands: "stand up, hook up". When the jumpers hear the long continuous ring of the alarm bell, they will follow the commands of the JM team and exit the aircraft as quickly and safely as possible.

Fire during flight. If there is a fire while in flight, a verbal warning will be issued to the jumpers. The jumpers will move away from the fire, and the loadmasters will attempt to extinguish it. Don the emergency passenger oxygen system (EPOS) if prompted to do so. Be prepared to execute bailout procedures if instructed to do so.

F-3. SERJTE (CH-47 CHINOOK)

STATIC LINE CONTROL

Static line control begins when the Jumpmaster issues the command of "**hook up**". The Jumper will unhook the USL snap hook from the carrying handle of the reserve parachute and attach it to the anchor line cable with the spring opening gate facing towards the starboard side of the aircraft. They should hear two distinct metallic clicks. From there the Jumper forms a reverse bight in the USL-M at approximately waist level, with two to three fingers of USL-M protruding out of the top of their thumbless grip, with the elbow locked. The Jumper will maintain this grip until the USL-M is pulled from their hand by their forward progress. Their hands will then be placed on the sides of the reserve parachute for the exit.

EXITING PROCEDURES

The CH-47 Chinook is exited using a Stop Gate method. A static JM or Safety will position themselves at the hinge of the ramp and use their arm to control the Jumper's access to the ramp. On the command of "**go**" or "**follow me**" the Jumpers will advance to the static JM or Safety and wait for their turn to exit, exiting at one-second intervals. When the static JM or Safety lifts their arm out of the way and says "**go**", the Jumper will proceed towards the port side corner of the ramp. When the USL-M is removed from their hand, the Jumper will move both hands to the sides of the reserve parachute. Once the Jumpers reach the edge of the ramp, they will walk straight off, without jumping, in the opposite direction from the direction of flight.

RED LIGHT PROCEDURES

Jumpers will be allowed onto the ramp at the discretion of the Jumpmaster, there will be no red light. The Jumpmaster is in direct communication with the Pathfinder on the ground, who is apprising the Jumpmaster of any problems that would preclude a safe descent and landing. Jumpers should not force their way past the static JM or Safety.

JUMP REFUSALS

If a Jumper refuses to exit the aircraft, they will be told "Go" two more times. If at that point, the Jumper still refuses to exit, they will be considered a jump refusal. The static JM or Safety will push the Jumpers back a safe distance from the ramp so that it can be closed. Any deployment bags that are still outside the aircraft will be retrieved and stowed. Once the ramp is closed, the JM will disconnect the USL snap hook from the anchor line cable, and seat the Jumper, telling them "You are a jump refusal, do not touch your equipment". The decision will then be made to make another pass with the Jumpers still onboard the aircraft or return to the PZ. After returning to the PZ, the Jumper will be handed over to the DACO/MACO for JMPI and TI.

TOWED JUMPER

If a Jumper becomes towed, they will maintain ripcord handle awareness. Once the Jumpmaster notices that they are being towed, no other Jumpers will exit. The JM will ascertain the nature of the problem. If it can be resolved by cutting or jogging equipment free, and without cutting the USL-M, then they will attempt to do so. If it cannot be resolved, the Jumper will be lowered to the DZ. Throughout the descent, the Jumper must maintain proper ripcord handle awareness. Once the Jumper is on the ground, the entanglement will be resolved and the USL-M disconnected. The aircraft can then offset, touch down, and the Jumpmaster can then move to the Jumper and take further action as required.

Load all jumpers into the mock up prior to conducting Emergency Procedures.

EMERGENCY PROCEDURES

In the event of a malfunction of the aircraft, the Jumpmaster will take all direction from the pilot. The Jumpers will attempt to resume their seats, fasten their seatbelts, and brace for impact by placing both their legs out at a 45-degree angle and bending over and grabbing their thighs.

It is imperative that Jumpers always maintain ripcord handle awareness as an inadvertent activation has catastrophic potential. In the event of an activation of a reserve parachute, that Jumper and the Jumpers around them will attempt to smother the canopy. If the canopy begins to work its way towards the ramp of the aircraft, then that Jumper and all Jumpers in front of him must exit as quickly as possible, regardless of interval.

F-4. SERJTE (UH-60 BLACKHAWK)

STATIC LINE CONTROL

USL snap hooks are held in the right hand with the USL-M routed over the right shoulder when Jumpers are in PZ posture. On arrival at the cargo door, each Jumper in turn will hand their USL snap hook to the JM. They will watch the JM attach their USL snap hook to the modified anchor line system, turn away from the USL-M, and assume a seated position, ending the Jumper's static line control for the operation.

EXITING PROCEDURES

The command of "**stand by**" is given at approximately 10 seconds out. The Jumpers will place their hands on the aircraft floor along their sides and extend their legs straight out, creating a 90-degree angle with their body, and give their attention to the Jumpmaster. Each Jumper will receive a tap on their helmet, accompanied by a verbal command of "**go**". When a Jumper receives the command of "**go**", they will push out with their hands enough to have the pack tray of their main parachute clear the edge of the cargo door. As soon as they are clear, they will go into their first point of performance.

RED LIGHT PROCEDURES

Jumpers will be individually tapped out by the Jumpmaster, there will be no red light. The Jumpmaster is in direct communication with the Pathfinder on the ground and the pilot, who are apprising the Jumpmaster of any problems that would preclude a safe descent and landing. Jumpers should not anticipate the command of "**go**" so much that they inadvertently exit before their time. If the Jumpmaster issues the command of "**no drop**, **no drop**, **no drop**" then the Jumpers will secure the safety belt and the aircraft will land or reattack.

JUMP REFUSALS

If a Jumper refuses to exit the aircraft, they will be given the tap and "**go**" two more times. If at that point, the Jumper still refuses to exit, they will be considered a jump refusal. Any Jumpers still onboard will remain on the aircraft. Any deployment bags that are still outside the aircraft will be retrieved and stowed. All remaining Jumpers will be pulled inside the aircraft and the cargo doors will be closed, or the safety belts will be replaced. The aircraft will return to the PZ, where the Jumper in question will be handed over to the DACO/MACO for JMPI and TI.

TOWED JUMPER

If a Jumper becomes towed, they will maintain ripcord handle awareness and a good body position. Once the Jumpmaster notices that they are being towed, no other Jumpers will exit. The JM will ascertain the nature of the problem. If it can be resolved by cutting or jogging equipment free, and without cutting the USL-M, then they will attempt to do so. If it cannot be resolved, the Jumper will be lowered to the DZ. Throughout the descent, the Jumper must maintain proper ripcord handle awareness. Once the Jumper is on the ground, the entanglement will be resolved and the USL-M disconnected. The aircraft can then offset, touch down, and the Jumpmaster can then move to the Jumper and take further action as required.

EMERGENCY PROCEDURES

In the event of a malfunction of the aircraft in-flight, the Jumpmaster will take all direction from the pilot. The Jumpers will pull their legs inside the aircraft, move to the center, and brace themselves for landing by lying flat on their backs.

If the aircraft needs to be evacuated while on the ground, you must ensure that your USL-M is disconnected from the aircraft. Exit the aircraft once the rotor blades have stopped, or when directed to do so by the crew chief. Move away from the aircraft to the 3 o'clock or 9 o'clock position and stay away from the nose or tail of the aircraft.

It is imperative that Jumpers maintain ripcord handle awareness at all times as an inadvertent activation has catastrophic potential. In the event of an activation of a reserve parachute when the safety belt is still attached, the Jumper will attempt to stop the activation of the reserve parachute and sound off with "**reserve, reserve, reserve**". If unable to stop the activation, the Jumper will attempt to slide underneath the safety belt. Other Jumpers will attempt to stay clear of that Jumper's USL-M as he exits by pulling their legs up and leaning back.

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• Appendix G. JMPI Sequences

G-1. HOLLYWOOD T-11 ATPS AND MC-6 JMPI

Preparing the jumper for inspection. With either hand apply inward pressure to the ripcord assembly, with the opposite hand, remove the top and bottom tuck tabs from the tuck pockets. Move to the back of the Jumper and disconnect the universal static line snap hook from the outer static line stow bar. Remove all excess of the universal static line modified that is stored in the static line slack retainer band. Remove all twists from the universal static line modified, then route the universal static line modified from bottom to top through one of the static line slack retainer bands, over the appropriate shoulder corresponding to the paratroop door that the Jumper is going to exit. Secure the universal static line snap hook to the carrying handle of the T-11 reserve parachute ensuring the spring opening gate is facing towards the Jumper. Move back to the rear of the Jumper and remove the main curved pin protector flap from the tuck flap.

Helmet. Place both hands on the right side of the Jumper's helmet, fingers extended and joined, palms facing towards the Jumper's helmet, and your fingers pointed skyward. Your left hand is your control hand and your right hand is your working hand. Keeping your left hand in place, with your right hand trace the outer rim of the helmet shell inspecting for any sharp or protruding edges which may cut or fray the Jumper's universal static line modified upon exiting the aircraft.

Once both hands are parallel, place both thumbs on the outer rim of the helmet shell and tilt the Jumper's head to the rear. Conduct a visual inspection to ensure that the appropriate suspension pad system is present and flush with the outer rim of the helmet shell. When inspecting a suspension pad system, the oval pads will cover the ballistic mounting screws and the trapezoid pad must be flush with the outer rim of the helmet shell. Keeping your left hand in place, with your right hand form a fist with your index finger exposed. Place your right index finger on the chinstrap assembly where it emerges from the outer rim of the helmet shell on the Jumper's left side. Trace down the chinstrap assembly until you come in contact with the chinstrap fastener. As you trace down, inspect the nylon portion of the chinstrap assembly to ensure it is not twisted, cut, torn, or frayed and as you bypass any plastic component inspect to ensure that it is not cracked or broken and that the nylon portion is properly routed through it and if a free running end is present, it is secured in a webbing retainer. Place your right index finger on the chinstrap fastener and ensure that it is not cracked or broken and that it is properly secured on the Jumper's left side. Place your right index finger on the portion of the chinstrap assembly where it is secured to the chinstrap fastener. With your right index finger trace the portion of the chinstrap assembly that routes under the Jumper's chin inspecting to ensure that the chinstrap assembly is not twisted, cut, torn, frayed, reversed, or dry rotted. Continue to trace the chinstrap assembly up on the Jumper's right side until you come in contact with the outer rim of the helmet shell. Again, you are inspecting the nylon components of the chinstrap assembly to ensure they are not twisted, cut, torn, or frayed and as you bypass any plastic component inspect to ensure that it is not cracked or broken and that the nylon portion is properly routed through it and if a free running end is present, it is secured in a webbing retainer. Once you come in contact with the outer rim of the helmet shell, leaving your left hand in place, remove your right index finger and place it on the chinstrap assembly on the Jumper's right side where it is sewn to the portion of the chinstrap assembly that routes across the front of the Jumper's chin. Trace the chinstrap assembly as it routes across the front of the Jumper's chin until you come into contact with the chinstrap fastener, inspecting to ensure that the chinstrap assembly is not twisted, cut, torn, frayed, reversed, or dry rotted, now drop both hands. You have just completed the frontal inspection of the helmet.

Canopy release assemblies. The next items to be inspected are the canopy release assemblies. These are like items of equipment so either one can be inspected first, however, for this talk through, we will start with the Jumper's left canopy release assembly. With your right hand form a fist. With the knuckles of your right hand lightly tap the canopy release assembly; you should hear a solid metallic sound. With your right hand form a knife cutting edge, fingers and thumb extended and joined, palm facing towards you the Jumpmaster, and insert it from outside to inside behind the left main lift web so your index finger is in contact with the diagonal backstrap pad. Rotate your right thumb up and place it on the outside corner of the safety clip and rotate the canopy release assembly 1/4 turn to the outside. With your head and eyes approximately four to six inches away conduct a visual inspection to ensure that the male fitting canopy release assembly is properly seated in the female fitting canopy release assembly by the latch, that the cable loop is secured by the safety clip, and that the canopy release assembly is free of any dirt or material. Allow the canopy release assembly to return to its normal position and keep your right hand in place.

For purposes of this talk through, the universal static line modified is routed over the Jumper's right shoulder;

therefore, it may be in your line of sight to inspect the right canopy release assembly. With your left hand secure the universal static line modified and rotate it over to your right hand and hold it in place ensuring your thumb remains on the safety clip. With your left hand form a fist. With the knuckles of your left hand lightly tap the canopy release assembly; you should hear a solid metallic sound. With your left hand form a knife cutting edge, fingers extended and joined, palm facing towards you the Jumpmaster, and insert it behind the right main lift web just below the canopy release assembly. Place your left thumb on the outside corner of the safety clip and rotate it a 1/4 turn to the outside. With your head and eyes approximately four to six inches away conduct a visual inspection to ensure that the male fitting canopy release assembly is secured in the female fitting canopy release assembly properly by the latch. Ensure the cable loop is properly secured by the safety clip and that the canopy release assembly is free of any dirt or foreign material. Allow the canopy release assembly to return to its normal position.

Main lift web. The next item to be inspected is the main lift web. These are like items of equipment and can be inspected in any order. Leave your right hand in place. Focus on your left hand. With the left hand trace down the right main lift web and ensure that it is not twisted, cut, torn or frayed, and nothing is misrouted behind it. Ensure the main lift web tuck tab assembly is properly assembled with the tuck tab in the tuck pocket and the snap fastener is secured. Make a mental note which of the three sizes the main lift web is configured in. Continue to trace until you make contact with the main lift web adjuster. Keep your left hand in place and focus on your right hand. With your right hand trace down the left main lift web and ensure that it is not twisted, cut, torn or frayed, and nothing is misrouted behind it. Ensure the left main lift web tuck tab assembly is in the same location as the right main lift web tuck tab assembly. The main lift web tuck tab assembly is properly assembled with the tuck tab in the tuck pocket and the snap fastener is secured. Continue to trace until you make contact with the snap fastener is secured. Continue to trace until you make contact with the snap fastener is secured. Continue to trace until you make contact with the snap fastener is secured. Continue to trace until you make contact with the snap fastener is secured. Continue to trace until you make contact with the main lift web tuck tab assembly is properly assembled with the main lift web adjuster. Leave your right hand in place. Remove your left hand.

Chest strap. With your left hand secure the carrying handle of the T-11 reserve parachute ensuring the back of your hand is facing skyward; and lift up and out. Remove your right hand form a knife cutting edge, fingers extended and joined, fingers facing down, palm facing towards you the Jumpmaster. Insert it from top to bottom behind the chest strap so that your right pinky finger makes contact with the left main lift web. Inspect the chest strap until you make contact with the chest strap friction adapter. You are inspecting to ensure the chest strap is not twisted, cut, torn or frayed, and it has a two to three finger quick release, and the quick release is secured in the webbing retainer, the free running end has been "S" folded and "S" folded only, and it is secured in its webbing retainer with the tab portion facing toward the chest strap friction adapter. This is a control point. Leave your right hand in place, drop your left hand; take a half step to your left the Jumper's right side.

Waistband. With your left hand form a knife cutting edge, fingers extended and joined, fingers facing skyward, palm facing towards you the Jumpmaster and insert it from bottom to top under the waistband, so your left index finger makes contact with the pack tray. With your head and eyes approximately four to six inches away conduct a visual inspection to ensure that at least 50% of the single X-box stitch is securing the waistband to the pack tray. Trace the waistband forward behind the reserve parachute until the right waistband retainer rests in the palm of your left hand. You are inspecting to ensure the waistband is not misrouted behind the horizontal backstrap or behind the right main lift web, and it is free of any twists, cuts, tears, or frays. Leave your left hand in place.

Remove your right hand and form a knife cutting edge, fingers extended and joined, fingers facing skyward, palm facing towards you the Jumpmaster and insert it from bottom to top behind the reserve parachute so the that the left waistband retainer rests in the palm of your right hand. Rotate your hands to make fingertip to fingertip contact and conduct a physical inspection to ensure the waistband is not twisted, cut, torn, or frayed, and that it has been routed through both waistband retainers. Leave your left hand in place and with the right hand continue to trace the waistband until the metal adjuster of the waistband adjuster panel rests in the palm of your right hand. Ensure the waistband is not misrouted behind the left main lift web, and that it is not twisted, cut, torn, or frayed.

Remove your left hand and form a fist with your index and middle fingers exposed and insert your index and middle finger from top to bottom into the 2-3 finger quick release. This is the only quick release that you will inspect in this manner. You are inspecting that the quick release is no less than 2 fingers, no more than 3 fingers, and no metal is felt. If metal is felt an improper quick release has been incorporated and it must be removed. Now with your thumb and index finger of your left hand pinch the free running end of the waistband where it re-emerges from the metal adjuster; ensuring that your fingers are pointed downward with your index finger closest to the Jumper's body. Conduct a visual inspection to ensure that the waistband is not misrouted

through both vertical bars on the metal adjuster. If it has an improper quick release has been incorporated and must be removed. Trace the free running end of the waistband until your fingers naturally fall off the waistband exaggerating your trace. Ensure the waistband is not cut, torn, or frayed, and is easily accessible to the Jumper. With your left hand secure the carrying handle of the T-11 reserve parachute, ensuring the back of your hand is facing skyward. With your right hand trace the waistband adjuster panel until your right index finger makes contact with the pack tray. Ensure the waistband adjuster panel is not misrouted behind the horizontal backstrap, it is not twisted, cut, torn or frayed, and at least 50% of the single X box stitch is securing the waistband adjuster panel to the pack tray.

T-11 reserve parachute. Remove your right hand and move in front of your Jumper. With your right hand, form a fist with your index finger exposed; place your right index finger on the outer guard of the left connector snap. With your head and eyes approximately four to six inches away conduct a visual inspection to ensure that the connector snap is not rusted, cracked, corroded, bent, or distorted out of shape and that it has not been safetied by means of a safety wire or safety wire and lanyard. Now pluck it for spring tension. Conduct a visual inspection of the left connector snap retaining tie to ensure that it is present and serviceable, inspect the left spreader bar tie to ensure that it is present, serviceable, constructed of Type III nylon cord gutted, and is red in color. With your left hand lift up and out on the carrying handle. With your right hand, form a fist with your index finger exposed and conduct a physical and visual inspection to ensure a DA Form 3912, Army Parachute Log Record is present.

Switch hands on the carrying handle of the T-11 reserve parachute, once again ensuring that the back of your right hand is facing skyward and lift up and out. Conduct a visual inspection of the right spreader bar tie to ensure that it is present, serviceable, constructed of Type III nylon cord gutted, and is red in color. Conduct a visual inspection of the right connector snap retaining tie to ensure that it is present and serviceable. With your left hand form a fist with your index finger exposed place your left index finger on the outer guard of the right connector snap. With your head and eyes approximately four to six inches away conduct a visual inspection to ensure that the connector snap is not rusted, cracked, corroded, bent, or distorted out of shape, and that it has not been safetied by means of a safety wire or safety wire and lanyard. Pluck it for spring tension. Drop both hands. With your left hand form a knife cutting edge, fingers extended and joined, palm facing towards you the Jumpmaster; sweep the carrying handle and the universal static line snap hook towards the Jumper. Rotate your left hand down and place your left thumb on the top right corner of the ripcord assembly and apply inward pressure. Conduct a visual inspection of the top tuck tab to ensure the directional arrow is present and pointing skyward. With your right hand form a pincher, index finger on top and thumb on bottom; pinch the top tuck tab and rotate it down. Place the thumb of your left hand on top of the top tuck tab and apply inward pressure. With your right hand form a fist with your index finger exposed place your right index finger on the tapered portion of the curved pin and trace the curved pin to the cut-away portion where it is attached to the curved pin lanyard. Inspect the curved pin to ensure that it is not rusted, cracked, corroded, bent, or distorted out of shape, and that it has been routed through the reserve closing loop. Visually inspect the reserve closing loop to ensure it is not burned, cut, torn, or frayed and the curved pin is not puncturing it. Place your index finger of your right hand on the curved pin lanyard where it is attached to the curved pin and trace down the curved pin lanyard to ensure it is not twisted, cut, torn or frayed, and is attached to the ripcord assembly by the reinforced stitching. Remove your index finger.

With your right hand form a pincher, index finger on top and thumb on bottom; pinch the bottom tuck tab and rotate it up. Place the thumb of your left hand on top of the bottom tuck tab and apply inward pressure. With your right hand form a fist with your index finger exposed and place your right index finger on the tapered portion of the curved pin and trace it to the cut-away portion where it is attached to the curved pin lanyard. Inspect to ensure that the curved pin is not rusted, cracked, corroded, bent, or distorted out of shape, and that it has been routed though the reserve closing loop. Visually inspect the reserve closing loop to ensure it is not burned, cut, torn, or frayed, and the curved pin is not puncturing it. Place the index finger of your right hand on the curved pin lanyard where it is attached to the curved pin and trace up the curved pin lanyard to ensure it is not twisted, cut, torn or frayed, and is attached to the ripcord assembly by the reinforced stitching. Remove your index finger and drop both hands.

You will now conduct an overall inspection of the T-11 reserve parachute. With both hands form knife cutting edges, fingers extended and joined, palms facing the T-11 reserve parachute, place both hands on the top right corner of the T-11 reserve parachute, with your head and eyes approximately four to six inches away. Your left hand is your control hand and your right hand is your working hand. Keep your left hand in place. With your right hand, pinky finger leading the way, trace the top pack closing flap. You are inspecting for any cuts, holes, or tears, exposed canopy or suspension lines, excess dirt, oil, water, or grease.

Rotate your right hand down, with the pinky finger of your right hand leading the way; trace down the left pack closing flap inspecting for any cuts, holes, or tears, exposed canopy or suspension lines, excess dirt, oil, water, or grease, and that the protection cap is not offset.

Rotate your hand, with the pinky finger of your right hand leading the way; trace the bottom pack closing flap inspecting for any cuts, holes, or tears, exposed canopy or suspension lines, excess dirt, oil, water, or grease. Rotate your hand over with the pinky finger of your right hand leading the way; trace the right pack closing flap inspecting for any cuts, holes, or tears, exposed canopy or suspension lines, excess dirt, oil, water, or grease, and that the protection cap is not offset until your working hand meets your control hand. Lift up your control hand and sweep under it with your working hand to ensure you have not covered up any deficiency. Secure the bottom corners of the T-11 reserve parachute. Lift it up high and issue the Jumper the command of "hold". Now issue the Jumper the command of "squat".

Leg straps. With both hands form a fist with your index finger and middle finger extended and joined. Simultaneously insert both hands, from outside to inside, behind the leg straps, just below the aviator kit bag or universal parachutist recovery bag, where that natural pocket is formed. Simultaneously trace both hands back to the saddle. This is the starting point for your inspection of the leg straps. These are like items of equipment so either can be inspected first. Keep your right hand in place, focus your attention to your left hand, for those Jumpers with an aviator kit bag trace the right leg strap forward until your hand is between the guick fit V-ring and the L-shaped ejector snap pad. For those Jumpers with a universal parachutist recovery bag trace the right leg strap forward until contact is made with the right leg strap retainer, remove your index and middle fingers and reinsert them just above the right leg strap retainer, continue to trace up the right leg strap until your hand is between the quick fit V-ring and the L-shaped ejector snap pad. You are ensuring the leg strap is not misrouted around the saddle, it is not twisted, cut, torn or frayed, that the leg strap has been routed through the leg strap retainer on the universal parachutist recovery bag, and the excess webbing is secured in the webbing retainer, that the quick fit V-ring is not rusted, cracked, corroded, bent, or distorted out of shape. Rotate your left thumb up and fully seat the activating lever and conduct a visual inspection to ensure that it is free of any dirt or foreign material that would keep it from completely seating. Keep your left hand in place, ensuring your thumb remains on the activating lever.

Focus on your right hand with your head and eyes approximately four to six inches away. If your right hand has come off the saddle trace back until you come in contact with the saddle. For those Jumpers with an aviator kit bag trace the left leg strap forward until your hand is between the quick fit V-ring and the L-shaped ejector snap pad. For those Jumpers with a universal parachutist recovery bag trace the left leg strap forward until contact is made with the left leg strap retainer, remove your index and middle fingers and reinsert them just above the left leg strap retainer, continue to trace up the left leg strap until your hand is between the quick fit V-ring and the L-shaped ejector snap pad. You are ensuring the leg strap is not misrouted around the saddle and that it is not twisted, cut, torn or frayed. That it is properly routed over the bottom portion and under the top portion on the exposed carrying handle of the aviator kit bag, or through the leg strap retainer on the universal parachutist recovery bag, and the excess webbing is secured in the webbing retainer, that the quick fit V-ring is not rusted, cracked, corroded, bent, or distorted out of shape. Rotate your right thumb up and fully seat the activating lever and conduct a visual inspection to ensure that it is free of any dirt or foreign material would keep it from completely seating.

While keeping your hands on the activating levers of the leg strap ejector snaps rock back on your heels and conduct a visual inspection of the aviator kit bag ensuring it is horizontal across the Jumper's lap, the sewn reinforced side is facing away from the Jumper, and the exposed carrying handle is to the Jumper's left, for the universal parachutist recovery bag conduct a visual inspection to ensure the universal parachutist recovery bag is present, neither leg strap retainer is cut or frayed more than 50%, the folded portions are facing skyward, the leg strap retainers are facing away from the Jumper and the opening is facing up. Drop both hands and stand up in front of your Jumper.

Universal static line modified. You will now transition from the front of the Jumper to the rear of the Jumper utilizing the universal static line modified and the universal static line snap hook. Secure the universal static line snap hook with your right hand and with your right hand only. Form a fist around the universal static line snap hook and hold it perpendicular to the T-11 reserve parachute. Open up your right hand and lay the back of your hand on the top pack closing flap of the T-11 reserve parachute. With your left hand form a fist with your index finger exposed. Place your left index finger on the green intermittent stitch on the universal static line modified where it is girth hitched to the universal static line snap hook. Trace down the universal static line snap hook until your index finger makes contact with the rivet pin, ensure that it is present and is not rusted, cracked,

corroded. Trace down the universal static line snap hook to ensure it is not rusted, cracked, corroded, bent, or distorted out of shape and the spring opening gate is facing toward the Jumper, until your finger falls off the universal static line snap hook.

With your right hand, form a fist around the universal static line snap hook just below the girth hitch and hold it perpendicular to the T-11 reserve parachute. With your left hand, form a pincher index finger on top, thumb on the bottom, pinch the universal static line modified at the double sewn reinforced portion and push in to expose the upper looped portion. Visually inspect the upper looped portion as it routes through the universal static line snap hook for burns, cuts, tears, or excessive frays. With the thumb or index finger of your right hand push the lower looped portion of the universal static line modified in exposing the inner looped portion and conduct a visual inspection to ensure that it is free from cuts, tears, burns, or excessive frays. Pull back with your left hand to remove the slack from the universal static line modified around the universal static line snap hook. Since the universal static line modified is routed over the Jumper's right shoulder, with the thumb and index finger of your right hand form an "O" around the universal static line modified just above the universal static line snap hook. Raise your right hand to the elbow locked position or until you feel resistance from the pack tray. Keep your eyes on your "O". Issue the Jumper the command "turn".

Keep your eyes on your "O" until the Jumper has completely turned and has stopped moving; insert the index finger or index finger and middle finger of your left hand under the universal static line modified, so that the index finger of your left hand makes contact with the thumb of your right hand. Trace the universal static line modified from your "O" to the static line slack retainer band ensuring it is routed through the static line slack retainer band, then break contact with the universal static line modified and reinsert your finger behind the universal static line modified below the static line slack retainer band and continue to trace to the first stow of the universal static line modified, which should be the bottom left inner static line stow bar. Using both hands, form a bight in the universal static line modified, place it on top of the main pack tray, and control it with your non-dominant hand. Conduct a visual inspection of the static line slack retainer loop, ensure that it is present, that it is not cut, torn, or frayed more than 50%, that two static line slack retainer bands are present, they are the correct size, and serviceable.

Left-handed Jumpmasters will use the left hand to inspect the universal static line modified. Right-handed Jumpmasters will use the thumb and index finger of your right hand and pull the first stow of the universal static line modified approximately one inch towards the center of the pack tray, ensure the universal static line modified is properly stowed, it is free of any burns, cuts, tears, or excessive frays, and has not been misrouted around the bottom left inner static line stow bar. Let the stow return to its normal position. Insert your thumb under the first piece of universal static line modified to be inspected. Inspect the universal static line modified across to the bottom right inner static line stow bar, ensuring that it is free of any burns, cuts, tears, or excessive frays. Rotate your index finger over and pull the stow of the universal static line modified approximately one inch towards the center of the pack tray, ensure the universal static line modified is properly stowed, it is free of any burns, cuts, tears, or excessive frays, and that it has not been misrouted around the bottom right inner static line stow bar. Let the stow return to its normal position. Rotate your thumb over so that your thumb print is facing the pack tray. Form an "O" around the next piece of universal static line modified to be inspected. Push your index finger through to separate this piece of universal static line modified and the one you just inspected. Inspect it across to the next stow on the left outer static line stow bar, should be the top stow, ensuring that it is free of any burns, cuts, tears, or excessive frays. Rotate your thumb over and pull the stow of the universal static line modified approximately one inch towards the center of the pack tray, ensure the universal static line modified is properly stowed, it is free of any burns, cuts, tears, or excessive frays, and it has not been misrouted around the left outer static line stow bar. Let the stow return to its normal position.

Rotate your index finger over so that your fingerprint is facing the pack tray. With your thumb and index finger, form an "O" around the next piece of universal static line modified to be inspected. Push your thumb through to separate this piece of universal static line modified and the one you just inspected. Inspect it across to the next stow on the right outer static line stow bar, should be the top stow, ensuring that it is free of any burns, cuts, tears, or excessive frays. Rotate your index finger over and pull the stow of the universal static line modified approximately one inch towards the center of the pack tray, ensure the universal static line modified is properly stowed, it is free of any burns, cuts, tears, or excessive frays, and it has not been misrouted around the right outer static line stow bar. Let the stow return to its normal position.

Rotate your thumb over so that your thumb print is facing the pack tray. Form an "O" around the next piece of universal static line modified to be inspected. Push your index finger through to separate this piece of universal static line modified and the one you just inspected. Inspect it across to the next stow on the left outer static line

stow bar, should be the bottom stow, ensuring that it is free of any burns, cuts, tears, or excessive frays. Rotate your thumb over and pull the stow of the universal static line modified approximately one inch towards the center of the pack tray, ensure the universal static line modified is properly stowed, it is free of any burns, cuts, tears, or excessive frays, and it has not been misrouted around the left outer static line stow bar. Let the stow return to its normal position.

Rotate your index finger over so that your fingerprint is facing the pack tray. With your thumb and index finger, form an "O" around the next piece of universal static line modified to be inspected. Push your thumb through to separate this piece of universal static line modified and the one you just inspected. Inspect it across to the next stow on the right outer static line stow bar, should be the bottom stow, ensuring that it is free of any burns, cuts, tears, or excessive frays. Rotate your index finger over and pull the stow of the universal static line modified approximately one inch towards the center of the pack tray, ensure the universal static line modified is properly stowed, it is free of any burns, cuts, tears, or excessive frays, and it has not been misrouted around the right outer static line stow bar. Let the stow return to its normal position.

Rotate your thumb over so that your thumb print is facing the pack tray. Form an "O" around the next piece of universal static line modified to be inspected. Push your index finger through to separate this piece of universal static line modified and the one you just inspected. Inspect the last piece of universal static line modified; ensure your fingers are out of your line of sight as this is the piece of universal static line modified that is most commonly masked. Trace the final piece of universal static line modified until you come in contact with the main curved pin cover.

With your right hand form a fist with your index finger exposed; lift up on the main curved pin cover and universal static line modified located under the main curved pin cover, exposing the main curved pin attaching loop. Inspect the main curved pin attaching loop to ensure that it is free of any burns, cuts, tears, or frays. Inspect the main curved pin; ensure it is not bent, cracked, corroded, or distorted out of shape, and it is properly routed through the main closing loop. Inspect the main curved pin is not bent, cracked, corroded, or distorted out of shape, and it is properly routed through the main closing loop. Inspect the main closing loop to ensure it is not burned, cut, torn, or frayed more than 50% and the main curved pin is not puncturing it in any manner. Inspect the main curved pin securing tie to ensure it is constructed of one turn of string ticket 8/4 orange cotton thread as is not broken. With your right hand form a pincher, index finger on top and thumb on bottom lift up on the main curved pin protector flap. Inspect to ensure the main closing loop is not burned, cut, torn or frayed more than 50%. Drop both hands and stand behind your Jumper.

You have just transitioned from the front of the Jumper to the rear of the Jumper by means of the universal static line modified and the universal static line snap hook. You must now start back at the top of your Jumper and work your way down beginning with the Jumper's helmet.

Helmet (rear). With both hands form knife cutting edges, fingers extended and joined, palms facing the Jumper, fingers pointed skyward, and place them on the left side of the Jumper's helmet. Your left hand is your control hand your right hand is your working hand. With your right hand trace the outer rim of the helmet. You are inspecting for any sharp or protruding edges which may cut or fray the Jumper's universal static line modified upon exiting the aircraft.

Once both hands are parallel, place your thumbs on the outer rim of the helmet shell and tilt the Jumper's head forward. With your head and eves approximately four to six inches away conduct a visual inspection to ensure that the appropriate suspension pad system is present and flush with the outer rim of the helmet shell. When inspecting a suspension pad system, the oval pads will cover the ballistic mounting screws and the trapezoid pad will be flush with, or extend no more than one-half inch past the outer rim of the helmet shell. Keeping your left hand in place, with your right hand form a fist with your index finger exposed. Place your right index finger on the chinstrap assembly where it emerges from the outer rim of the helmet shell on the Jumper's right side. Trace down the chinstrap assembly until you come in contact with where it is sewn to the nylon portion on the front of the chinstrap assembly. As you trace down, inspect the nylon portion of the chinstrap assembly to ensure it is not twisted, cut, torn, or frayed and as you bypass any plastic component inspect to ensure that it is not cracked or broken and that the nylon portion is properly routed through it and if a free running end is present, it is secured in a webbing retainer. Keeping your right hand in place, with your left hand form a fist with your index finger exposed. Place your left index finger on the chinstrap assembly where it emerges from the outer rim of the helmet shell on the Jumper's left side. Trace down the chinstrap assembly until you come in contact with where it is sewn to the chinstrap fastener on the front of the chinstrap assembly. As you trace down, inspect the nylon portion of the chinstrap assembly to ensure it is not twisted, cut, torn, or frayed and as you bypass any plastic component inspect to ensure that it is not cracked or broken and that the nylon portion is properly routed through it and if a free running end is present, it is secured in a webbing retainer.

Conduct a visual inspection of the nape pad to ensure it is present, that the pad portion is facing towards the Jumper's skin, and it is not ballistic.

Riser assemblies. Drop both hands over your Jumper's shoulders and form a fist with both hands around the risers as far forward as possible making contact with the canopy release assemblies on the front of the Jumper. The riser assemblies are like items of equipment so either can be inspected first. You will inspect the risers using the acronym TOT. With your left hand give the left riser a slight TUG, to ensure it is secure, OPEN you hand to the "L" position, and TRACE the riser all the way back to the pack tray. You are inspecting to ensure the riser is not twisted, cut, torn, or frayed, that it is not misrouted under the Jumper's shoulder, and that the DA Form 3912, Army Parachute Log Record is present in the Army Parachute Log Record Stow Pocket located on the riser. If it is not located in this riser set it must be in the other riser set. With your right hand give the riser all the way back to the pack tray. You are inspecting the riser a slight TUG, to ensure it is secure, OPEN your hand to the reverse "L" position, and TRACE the riser all the way back to the pack tray. You are inspecting to ensure the riser is not twisted, cut, torn, or frayed, that it is not misrouted under the Jumper's shoulder, and that the DA Form 3912, the riser all the way back to the pack tray. You are inspecting to ensure the riser is not twisted, cut, torn, or frayed is present in the Army Parachute Log Record Stow Pocket located on the riser. If the DA Form 3912 Army Parachute Log Record is present in the Army Parachute Log Record Stow Pocket located on the riser. If the DA Form 3912 Army Parachute Log Record is present in the Army Parachute Log Record Stow Pocket located on the riser. If the DA Form 3912 Army Parachute Log Record is present in the Army Parachute Log Record Stow Pocket located on the riser. If the DA Form 3912 Army Parachute Log Record

Pack tray. You will now conduct an overall inspection of the pack tray. With both hands form knife cutting edges, fingers extended and joined, palms facing the pack tray, place both hands on the top left corner of the pack tray, with your head and eyes approximately four to six inches away. Your left hand is your control hand, and your right hand is your working hand. Keep your left hand in place. With your right hand, pinky finger leading the way, trace the top pack closing flap. You are inspecting for any cuts, holes, or tears, exposed canopy or suspension lines, excess dirt, oil, water, or grease.

Rotate your right hand down, with the pinky finger of your right hand leading the way; trace down the right pack closing flap inspecting for any cuts, holes, or tears, excess dirt, oil, water, or grease. Rotate your hand, with the pinky finger of your right hand leading the way; trace the bottom pack closing flap inspecting for any cuts, holes, or tears, excess dirt, oil, water, or grease. Rotate your hand over, with the pinky finger of your right hand leading the way; trace the left pack closing flap inspecting for any cuts, holes, or tears, excess dirt, oil, water, or grease: until your working hand meets your control hand. Lift up your control hand and sweep under it with your working hand to ensure you have not covered up any deficiencies.

Diagonal backstraps and horizontal backstrap. With both hands form knife cutting edges, fingers extended and joined, palms facing you the Jumpmaster, and issue the Jumper the command "arch your back". Place both hands under the diagonal backstrap in the vicinity of the backstrap adjusters. Simultaneously trace both hands up until your index fingers make contact with the diagonal backstrap retainers. You will ensure the parachute harness is properly sized by counting the rows of stitching on the diagonal backstrap. There should be one more row of stitching on the diagonal backstrap closest to you then there is on the diagonal backstrap closest to the Jumper. Visually inspect the diagonal backstrap retainers to ensure they are routed through the sizing channels, under and over the diagonal backstrap keeper, and secured back to itself with the directional snap fastener.

With both thumbs, simultaneously pluck up on the outside corner of the diagonal backstrap retainer to ensure that the directional snap fastener is properly secured. Leave your right hand in place and focus your attention on your left hand. With your left hand, trace down until you reach the backstrap adjuster. Ensure the diagonal backstrap is not twisted, cut, torn or frayed, or routed over the Jumper's shoulder. Form a fist around the backstrap adjuster on the Jumper's left side. This is where your left hand will stay for the remainder of the inspection.

Focus your attention on your right hand and trace down to the backstrap adjuster. Ensure the diagonal backstrap is not twisted, cut, torn, or frayed, and it is not routed over the Jumper's shoulder. Continue to trace the horizontal backstrap until your pinky finger makes contact with the main lift web. Ensure that the horizontal backstrap is not twisted, cut, torn or frayed, and the excess webbing is secured in its webbing retainer.

Remove your right and form a knife cutting edge, fingers extended and joined, palms facing you the Jumpmaster, fingers pointed skyward. Insert it from bottom to top under the horizontal backstrap where it reemerges from the main left web. Ensure that your index finger makes contact with the main lift web. If you are having trouble getting your fingers behind the horizontal back strap, use the heel of your right hand and lift up on the bottom right corner of the pack tray creating a pocket. Insert your right hand behind the horizontal backstrap and trace over to the right until you have index finger to main lift web contact. Issue the Jumper the command

of "bend". With your left shoulder push up on the bottom of the pack tray, with your left hand simultaneously pull down on the backstrap adjuster. With your right hand, trace the horizontal backstrap across the small of the Jumper's back. When you reach the right horizontal backstrap retainer, ensure it is routed over the horizontal backstrap, under and over the horizontal backstrap keeper, that it is secured with a directional snap fastener, and that it is not twisted, cut, torn, or frayed. Continue to trace to the left horizontal backstrap retainer, ensure it is secured with a directional backstrap, under and over the horizontal backstrap, under and over the horizontal backstrap under and over the horizontal backstrap teaper, that it is secured with a directional snap fastener, and that it is not twisted, cut, torn, or frayed. Trace the horizontal backstrap until your pinky finger makes contact with the main lift web once again inspecting to ensure that it is not twisted, cut, torn or excessively frayed.

Remove your right hand and form a knife cutting edge, fingers extended and joined, palm facing towards you the Jumpmaster and insert it from bottom to top behind the last piece of horizontal backstrap to be inspected ensuring you have fingertip to main lift web contact. Trace up until your working hand makes contact with your control hand. Ensure the horizontal backstrap has not been twisted, cut, torn, or frayed and the excess webbing is secured in the webbing retainer. At this time, you should be in the head to butt, butt to head position. Remove your right hand and form a knife cutting edge, fingers extended and joined, palm facing the Jumper, fingers pointed towards the center of the circle, and place it on the main lift web adjuster on the Jumper's left side. Trace down the last piece of main lift web, bypassing the triangle link and continue to trace the saddle. Trace the saddle as it routes under the Jumper's buttocks ensuring it is not twisted, cut, torn, or frayed. As you bypass the leg straps, ensure they are not misrouted around the saddle. Continue to trace bypassing the triangle link on the Jumper's right side and up the main lift web until you make contact with the main lift web adjuster on the Jumper's right side. Raise your right hand high in the air and issue the seal of approval.

Place the Jumper into jump configuration. After the Jumpmaster has completed their JMPI, the JM will place the Jumper into jump configuration. The JM will insert the top and bottom tuck tabs, taking care to ensure the side tuck tabs remain secure. If the side tuck tabs become unsecure the JM will notify a parachute Rigger. The JM will trace the universal static line modified from the universal static line snap hook to ensure that the universal static line modified is routed over the appropriate shoulder. Once behind the Jumper the JM will remove all slack from the universal static line modified and create a new stow below the static line slack retainer band. Lastly the JM will reinsert the main curved pin protector flap into the tuck flap.

G-2. COMBAT EQUIPMENT T-11 ATPS AND MC-6 JMPI

Inspection of combat equipment. Begin your normal sequence of inspection until you have completed your inspection of the of the chest strap and stop and your left hand is inserted behind the waistband making index finger to pack tray contact.

Leave your right hand in place. With your left hand, begin tracing forward on the waistband inspecting to ensure the waistband is not twisted, cut, torn, or frayed, and it has not been misrouted behind the horizontal backstrap on the Jumper's right side, under the right main lift web, or over the right equipment ring. Continue to trace until the waistband retainer on the right rear portion of the T-11 reserve parachute rests in the palm of your left hand. Leave your left hand in place. Remove your right hand and form a knife cutting edge, fingers extended and joined, fingers pointing skyward, palm facing towards you the Jumpmaster, and insert it from outside to inside under the left adjustable D-ring attaching strap, so that the waistband retainer on the left rear portion of the T-11 reserve parachute rests in the palm of your right hand. Rotate your hands so that you have fingertip to fingertip contact behind the T- 11 reserve parachute conducting a physical inspection of the waistband to ensure that it is not twisted, cut, torn, or frayed, and it is properly routed through both waistband retainers. Leaving your right hand in place remove your left hand and secure the pack closing flap of the T-11 reserve parachute on the Jumper's left side thumb facing downward palm towards the T-11 reserve parachute. Remove your right hand and with your right forearm push out on the lead edge of the modular airborne weapons case and conduct a visual inspection of the waistband to ensure that it has not been misrouted behind the left main lift web, or over the left equipment ring. Remove your right forearm and with your right hand secure the trail edge of the modular airborne weapons case and pull it forward. With your right hand form a knife cutting edge, fingers extended and joined and insert it from bottom to top behind the metal adjuster of the waistband adjuster panel. Remove your left hand and form a fist with your index finger and middle finger exposed, insert your index and middle fingers from top to bottom into the 2-3 finger quick release in the waistband. You are inspecting to ensure that the quick release is no less than 2 fingers no more than 3 fingers and that no metal is felt, if metal is felt an improper quick release has been incorporated and must be removed. Remove your index and middle fingers and with your left hand form a pincher with your index finger and thumb. Pinch the free running end of the waistband where it reemerges from the metal adjuster. Conduct a visual inspection of the waistband to ensure that it has not been misrouted through both vertical metal bars of the metal adjuster, if it has, an improper quick release has been incorporated and must be removed. With your index finger and thumb trace the free running end of the waistband ensuring that it is not cut, torn, or frayed until your fingers fall off naturally exaggerating your trace. Place your left hand back on the left pack closing flap of the T-11 reserve parachute. Focus your attention back on your right hand and trace the waistband adjuster panel until your right index finger makes contact with the pack tray. You are inspecting the waistband adjuster panel to ensure that it is not twisted, cut, torn, or frayed, it is not misrouted under the horizontal backstrap, and is secured to the pack tray by at least 50% of a single X box stitch.

Remove your right hand and with your right forearm push out on the lead edge of the modular airborne weapons case. Conduct a visual inspection of the snap shackle to ensure it is the outer most item of equipment on the left equipment ring, and the opening gate is facing to the Jumper's rear. With your right index finger and thumb, pinch the snap shackle and rotate it a 1/4 of a turn and conduct a visual inspection of the locking pin to ensure it is seated. Conduct a visual inspection to ensure the vellow safety lanyard is present and is secured to the snap fastener that allows it the most slack. With your right hand form a fist with your index finger exposed and trace down the adjusting strap ensuring that it is routed through the pouch attachment ladder system webbing and there is no more than a two finger length of adjusting strap protruding from the upper most rung of the pouch attachment ladder system webbing that the adjusting strap is routed through for proper sizing. Continue to trace the adjusting strap until you reach the friction adapter. Inspect the friction adapter to ensure it is not bent, distorted out of shape, rusted, cracked, or corroded. Inspect to ensure the adjusting strap is routed through the friction adapter from top to bottom then routed up over the lower bar and under the top bar and all excess webbing is stowed under the pouch attachment ladder system webbing or "S" folded or rolled and secured in a retainer band that has been girth hitched to the rung of the pouch attachment ladder system webbing closest to the friction adapter. With your right hand form a knife cutting edge with your fingers extended and joined, palm facing skyward and trace from front to rear along the bottom of the adjustable nose cone to ensure the muzzle of the weapon is not protruding. With the palm of your right hand, lift on the base of the adjustable nose cone three to six inches inspecting to ensure that the nose cone securing straps are tightened and the hook pile tape is properly secured. Place your right index finger on the slide fastener at the bottom of the closing flap. Trace up the slide fastener to ensure it is secure, continue to trace up the slide fastener in the vicinity of the snap fastener. As you bypass the compression straps and quick release buckles ensure they are properly routed under the vertical nylon equipment hanger and properly secured. Conduct a visual inspection of the quick

release buckles to ensure they are not cracked or broken. Visually inspect the compression straps to ensure they are not twisted, cut, torn, or frayed and that the free running end has been secured in its webbing retainer. Continue to trace the slide fastener until you come in contact with the tabbed thong. Conduct a visual inspection to ensure that the spring portion of the upper spring stop is present and serviceable.

With your right index finger, form a hook and pull down and out on the slide fastener and tabbed thong to ensure it is secured by the snap fastener or the upper tie-down tape, or both, and there is no preferred method. With the right hand form a knife cutting edge and measure down approximately 10 to 12 inches from the top of the modular airborne weapons case feeling for the forward assist. Once the forward assist is found give it a sharp slap. With the index finger and thumb of the right hand, pinch the bowknot of the upper tie-down tape on the lead edge of the modular airborne weapons case. Visually inspect the upper tie-down tape to ensure it is girth hitched to the horizontal backstrap below the rolled free running end, then routed from back to front through the small cut-away portion of the equipment ring. The other end should be routed around the rear of the MAWC, through the tabbed thong, through the uppermost vertical nylon equipment hanger, then both ends should be secured on the front with a single or double looped bow knot. Leave your right hand in place. With your left hand secure the carrying handle of the T-11 reserve parachute with the back of your hand facing skyward and lift up and out. With your right hand form a fist with your index finger exposed and place it on the outer guard of the left connector snap.

Continue your normal sequence of inspection of the T-11 reserve parachute beginning with the left connector snap and stop when you have just completed the overall inspection of the reserve parachute and issued the Jumper the command of "hold".

MOLLE 4k with IHSPR

The next item to be inspected in the integrated harness single point release starting with the adjustable equipment ring attaching straps. These are like items of equipment so either one can be inspected first, however, for this talk through we will begin with the right adjustable equipment ring attaching strap. Simultaneously, with both hands form fists with your index fingers exposed. Place your index fingers on top of the snap hooks of the adjustable equipment ring attaching straps. Leave your right hand in place. Focus your attention on your left hand. Conduct a visual inspection to ensure that the snap hook is not bent, cracked, corroded, or distorted out of shape, and the opening gate is facing towards the jumper. With the index finger of your left hand, pluck the opening gate one time, to ensure that it is properly secured to the right equipment ring, it has spring tension, and it has not been reversed. With your left thumb, flip the free running end of the right adjustable equipment ring attaching strap out of the way.

Place your left index finger on the black intermittent stitching, on the front of the right adjustable equipment ring attaching strap, just below the snap hook. Trace down the right adjustable equipment ring attaching strap ensuring it is not twisted, cut, or frayed, until contact is made with the yellow attaching loop. Trace Down the color coated attaching loops to ensure they are not twisted, cut, or frayed. Ensure that the white attaching loop is routed from bottom to top through the yellow attaching loop. That the green attaching loop is routed from bottom to top through the white attaching loop. That the red attaching loop is routed from bottom to top through the green attaching loop and is routed from bottom to top through the grommet on the female portion leg strap release assembly and that the release handle cable is routed through the red attaching loop and secured in the cable loop retainer. Continue tracing until the index finger of your left hand rests on the single "X" box stitch of the release handle cross strap. Leave your left index finger in place, and with your right hand; conduct the same inspection on the left adjustable equipment ring attaching strap until your right index finger rests on the single "X" box stitch of the release handle cross strap. Focus your attention on the release handle. Leave your left index finger in place, and with the right index finger and thumb, index finger on top, thumb on the bottom lift up gently on the release handle. Ensure the release handle and release handle cable are properly routed between the two plies of the release handle cross strap. That they are secured by the hook and pile tabs, they have not been reversed, and are not upside down. Now form a hook with your right index finger and insert it from outside to inside and gently lift up on the release handle lanyard to ensure it is no more than one half twist, cut, frayed, or misrouted around the equipment retainer strap of the release handle cross strap. Place your right index finger back on the single "X" box stitch on the release handle cross strap. Visually inspect to ensure that the equipment retainer straps are properly routed through the air item routing channels inside the air items stowage pocket. Simultaneously with both hands trace down the equipment retainer straps ensuring they are not twisted, cut, or frayed, and both equipment retainer straps are routed through the same number of air item routing channels until your fingers rest on top of the friction adapters; behind the two to three finger quick releases of the equipment retainer straps. Simultaneously, you will inspect the 2-3 finger quick release by placing the index

and middle finger of each hand, palm facing you, on the outside of the quick releases. Visually inspect the free running ends of the equipment retainer straps to ensure that they are S- folded or accordion folded, never rolled and are secured by one turn of masking tape or two turns of retainer band. One or the other never both, and there is no preferred method, and they are not secured to the guick releases. With the index fingers of each hand, lightly tap the free running ends of the equipment retainer straps to ensure that they are secure. Secure the sides of the MOLLE 4000 and hold it up to eye level. Conduct a visual inspection to ensure the equipment retainer straps are routed through the friction adapter stowage pockets, through the "U" shaped channels and the "V" shaped load lifters on top of the pack, and behind the MOLLE 4000 frame. Furthermore, ensure that the adjustable shoulder carrying straps are routed through the carrying handle. Hold the MOLLE 4000 up to the jumper and issue the command "HOLD". Simultaneously place the index fingers of both hands on the equipment retainer straps where they re-emerge from under the MOLLE 4000. Conduct a visual inspection of the equipment retainer straps to ensure that they form an "X" configuration on the back of the MOLLE 4000 pack. As you bypass the girth hitch of the hoop pile tape lowering line this is your first opportunity to ensure it is routed from north to south or south to north never east to west. Now with both hands trace down the equipment retainer straps ensuring they are not twisted, cut, or frayed, and they are properly routed through the air item routing channels until contact is made with the MOLLE 4000 frame. With the thumb and index fingers of each hand, form an "O" around the base of the adjustable shoulder carrying straps.

Simultaneously pull out to ensure they are properly secured to the MOLLE 4000 pack. Visually inspect the free running ends of the adjustable shoulder carrying straps to ensure they are S-folded and S-folded only and secured with either masking tape, retainer band, or its appropriate webbing retainer. With the index fingers of each hand, lightly tap the free running ends of the adjustable shoulder carrying straps to ensure they are secure. With your right hand form a fist with your index finger exposed and place it, just to the left of the girth hitch of the hook pile tape lowering line. Visually inspect the girth hitch to ensure it is routed north to south, south to north, and not east to west. With your right index finger trace the hook pile tape lowering line until making contact with the first set of hook pile tab modifications. Inspect the hook pile tape lowering line to ensure it is properly routed over the left adjustable shoulder carrying strap and that the hook pile tab modification is secure with no S-folds protruding from the retainer flap or past the hook pile tab modification. Continue to inspect down the retainer flap ensuring that it is secured to the MOLLE 4000 pack by at least two girth hitched retainer bands approximately four inches apart on the pouch attachment ladder system webbing. Inspect the retainer flap to ensure it is free of any large holes, rips, or tears, and that at least 50% of the hook pile tape is securing the retainer flap. Continue to trace until you reach the second set of hook pile tab modifications. Inspect to ensure the hook pile tabs are present, serviceable, and that no S-folds of the hook pile tape lowering line are protruding from the end of the retainer flap or past the hook pile tab modifications. Continue to trace the hook pile tape lowering line until your index finger disappears behind the modular airborne weapons case. Visually inspect to ensure the hook pile tape lowering line is properly routed between the main body of the modular airborne weapons case and the attachment strap from front to rear as worn by the Jumper. With your left hand reach over your right arm and grasp the trail edge of the modular airborne weapons case and pull it forward. Remove your right index finger from behind the attachment strap and place it back on the hook pile tape lowering line on the back side of the modular airborne weapons case. Continue to trace the hook pile tape lowering line until you make contact with the ejector snap. Visually inspect to ensure the yellow safety lanyard is present and it is constructed of 1-inchwide tubular nylon webbing and is yellow in color. Form a fist around the ejector snap of the hook pile tape lowering line. You will now inspect the ejector snap of the hook pile tape lowering line using the acronym STT or seat, tug, turn. Rotate your thumb up and seat the activating lever to ensure that it is properly seated. Tug the ejector snap of the hook pile tape lowering line to ensure that it is properly secured to the parachute harness. Rotate the ejector snap 1/4 turn to the outside and inspect to ensure the small tooth is present on the opening gate, that the opening gate is facing towards the Jumper, and is free of any dirt or foreign material.

Large MOLLE/ALICE with HSPR

The next item to be inspected in the harness, single point release beginning with the adjustable D-ring attaching straps. The adjustable D-ring attaching straps are like items of equipment and can be inspected in any order. Simultaneously, with both hands form fists with your index fingers exposed. Place your index fingers on the snap hooks of the adjustable D-ring attaching straps. Focus your attention on your left hand. Conduct a visual inspection of the right snap hook to ensure that it is not rusted, cracked, corroded, bent, or distorted out of shape, and that the opening gate is facing toward the Jumper, and it is the only item of equipment on the right equipment ring. Rotate your index finger around and pluck the opening gate for spring tension. With the thumb of your left hand, rotate the free running end of the adjustable D-ring attaching strap out of your line of sight. Place your index finger on the black interwoven stitch on the nylon portion of the adjustable D-ring attaching strap. Trace the adjustable D-ring attaching strap until you make contact with the triangle link. Ensure that the

nylon portion is not twisted, cut, torn, or frayed, or misrouted behind the ALICE pack or MOLLE frame. Inspect the triangle link to ensure it is not rusted, cracked, corroded, bent, or distorted out of shape. Bypass the three color coded attaching loops and place your index finger on the X-box stitch just below the female portion leg strap release assembly. As you bypass the color coded attaching loops, ensure the white attaching loop is routed from bottom to top through the triangle link, the green attaching loop is routed from bottom to top through the white attaching loop, the red attaching loop is routed from bottom to top through the green attaching loop, through the grommet on the female portion leg strap release assembly, and the release handle cable is routed through the red attaching loop and secured in the cable loop retainer. Keep your left hand in place. Now focus your attention on your right index finger which should still be on the snap hook of the adjustable D-ring attaching strap on the Jumper's left side. Inspect the snap hook to ensure it is not rusted, cracked, corroded, bent, or distorted out of shape and that the opening gate is facing toward the Jumper, and it is the inner most item of equipment on the left equipment ring. Rotate your right index finger around and pluck the opening gate for spring tension. With your right thumb, rotate the free running end of the adjustable D-ring attaching strap out of your line of sight. Place your index finger on the nylon portion of the adjustable D-ring attaching strap and trace it down until you make contact with the triangle link. Ensure that the nylon portion is not twisted, cut, torn, frayed, or misrouted behind the ALICE pack or MOLLE frame. Inspect the triangle link to ensure it is not rusted, cracked, corroded, bent, or distorted out of shape. Bypass the three color coded attaching loops and place your index finger on the X-box stitch just below the female portion leg strap release assembly. As you bypass the color coded attaching loops, ensure the white attaching loop is routed from bottom to top through the triangle link, the green attaching loop is routed from bottom to top through the white attaching loop, the red attaching loop is routed from bottom to top through the green attaching loop, through the grommet on the female portion leg strap release assembly, and the release handle cable is routed through the red attaching loop and secured in the cable loop retainer.

With your right hand form a pincher and with your thumb and index finger and pinch the release handle with your index finger on top, thumb on bottom as close to the release handle cross strap as possible. Gently lift up on the release handle and inspect to ensure the release handle is properly routed through the release handle cross strap and secured with the hook pile tape and that the release handle is not reversed or upside down. Also, inspect to ensure the release handle cross strap. With your right index finger, form a hook and hook the release handle lanyard to ensure that it is not twisted or misrouted around the equipment retainer strap. Place your right index finger back on the single X-box stitch.

Simultaneously, trace down the equipment retainer straps, until your fingers make contact with the second set of single X-box stitch. As you bypass the outer accessory pouches, make a mental note to ensure they are properly filled with non-fragile items of equipment or if an e-tool carrier case is present with an e-tool inside, the e-tool must be tied down to the MOLLE with type II or type III nylon cord gutted. You are inspecting the equipment retainer straps to ensure they are not twisted, cut, or frayed. With your right hand, secure the adjustable cross strap and tug it one time to your right. Place your right index finger back on the single X-box stitch and continue to inspect the equipment retainer straps until your fingers fall off the ends of the ALICE pack or MOLLE. Secure the sides of the ALICE pack or MOLLE and raise it up to approximately eye level. Visually inspect to ensure that the equipment retainer straps are routed under the envelope cushion portion of the ALICE pack frame or through the small cut-away portion from outside to inside under the adjustable shoulder carrying straps of the MOLLE. Continue to rotate the ALICE pack or MOLLE up and issue the command of "HOLD".

Continue your inspection of the equipment retainer straps as they re-emerge from under the envelope cushion portion of the ALICE pack or under the adjustable shoulder carrying straps of the MOLLE. With both hands form fists with your index fingers exposed. Place your index fingers on the equipment retainer straps where they reemerge from under the envelope cushioned portion of the ALICE pack or from outside to inside under the adjustable shoulder carrying straps of the MOLLE. Trace the equipment retainer straps ensuring they form an X configuration on the rear of the ALICE pack or MOLLE. As you bypass the girth hitch in the hook pile tape lowering line this is your first opportunity to ensure the girth hitch is routed from north to south or south to north, never east to west or west to east. Continue to trace the equipment retainer straps, unit you reach the friction adapter. With both hands form fists with your index and middle fingers exposed and pin the 2-3 finger quick releases in the equipment retainer straps against the back to the ALICE pack or MOLLE. You are inspecting the quick releases to ensure they are no more than three fingers and no less than two fingers. Leaving your fingers in place conduct a visual inspection of the free running ends of the equipment retainer straps to ensure they are S-folded and S-folded only, secured with either masking tape or retainer bands, one of the two methods, never both and there is no preferred method, and that the S-folds are not secured to the quick releases. With both

hands form fists with your index fingers exposed. Simultaneously, with the index fingers of each hand, lightly tap them to ensure the S-folds are secure.

With the thumb and index finger of each hand form an "O" around the base of the adjustable shoulder carrying straps. Give the adjustable shoulder carrying straps a sharp tug outward to ensure they are properly secured to the ALICE pack or MOLLE frame. Visually inspect the free running ends of the adjustable shoulder carrying straps to ensure they are S-folded, S-folded only, and secured with masking tape or retainer bands, one of the two, never both, and there is no preferred method. With both hands form fists with your index fingers exposed. Simultaneously, with the index fingers of each hand, lightly tap the free running ends of the adjustable shoulder carrying straps to ensure the S-folds are secure.

With your right hand form a fist with your index finger exposed and place it, just to the left of the girth hitch of the hook pile tape lowering line. Visually inspect the girth hitch to ensure it is routed north to south, south to north, and not east to west. With your right index finger trace the hook pile tape lowering line until making contact with the first set of hook pile tab modifications. Inspect the hook pile tape lowering line to ensure it is properly routed over the left adjustable shoulder carrying strap and that the hook pile tab modification is secure with no S-folds protruding from the retainer flap or past the hook pile tab modification.

Continue to trace down the retainer flap to ensure the hook pile tape lowering line is secured to the ALICE pack frame by two retainer bands, one of above and one below the horizontal frame support or on the MOLLE ensure the retainer bands are girth hitched to the small holes in the MOLLE frame and are evenly spaced on the retainer flap. Inspect the retainer flap to ensure it is free of any large holes, rips, or tears, and that at least 50% of the hook pile tape is securing the retainer flap. Continue to trace until you reach the second set of hook pile tab modifications. Inspect to ensure the hook pile tabs are present, serviceable, and that no S-folds of the hook pile tape lowering line are protruding from the end of the retainer flap or past the hook pile tab modifications.

Continue to trace the hook pile tape lowering line until your index finger disappears behind the modular airborne weapons case. Visually inspect to ensure the hook pile tape lowering line is properly routed between the main body of the modular airborne weapons case and the attachment strap from front to rear as worn by the Jumper. With your left hand reach over your right arm and grasp the trail edge of the modular airborne weapons case and pull it forward. Remove your right index finger from behind the attachment strap and place it back on the hook pile tape lowering line on the back side of the modular airborne weapons case. Continue to trace the hook pile tape lowering line until you make contact with the ejector snap. Visually inspect to ensure the yellow safety lanyard is present and it is constructed of one-inch wide tubular nylon webbing and is yellow in color. Form a fist around the ejector snap of the hook pile tape lowering line using the acronym STT or seat, tug, turn. Rotate your thumb up and seat the activating lever to ensure that it is properly seated. Tug the ejector snap of the hook pile tape lowering line to ensure that it is properly seated. Tug the ejector snap 1/4 turn to the outside and inspect to ensure the small tooth is present on the opening gate, that the opening gate is facing towards the Jumper, and is free of any dirt or foreign material.

Move to the front of your Jumper and issue the command of "squat". With both hands form a fist with your index finger and middle finger extended and joined. Simultaneously insert both hands, from outside to inside, behind the leg straps, just below the aviator kit bag or universal parachutist recovery bag, where that natural pocket is formed. Simultaneously trace both hands back to the saddle. This is your starting point for your inspection of the leg straps. These are like items of equipment and can be inspected in any order. With your head and eyes approximately four to six inches away, keep your right hand in place, focus your attention to your left hand, for those Jumpers with an aviator kit bag trace the right leg strap forward until your hand is between the quick fit Vring and the L-shaped ejector snap pad. For those Jumpers with a universal parachutist recovery bag trace the right leg strap forward until contact is made with the right leg strap retainer, remove your index and middle fingers and reinsert them just above the right leg strap retainer, continue to trace up the right leg strap until your hand is between the quick fit V-ring and the L-shaped ejector snap pad. You are ensuring the leg strap is not misrouted around the saddle, it is not twisted, cut, torn or frayed, that the leg strap has been routed through the leg strap retainer on the universal parachutist recovery bag, or over the sewn reinforced side of the aviator kit bag, and the excess webbing is secured in the webbing retainer, that the quick fit V-ring is not rusted, cracked, corroded, bent, or distorted out of shape. Rotate your left thumb up and fully seat the activating lever and conduct a visual inspection to ensure that it is free of any dirt or foreign material that would keep it from completely seating. Keep your left hand in place, ensuring your thumb remains on the activating lever. Focus your attention back on your right hand. If your right hand has come off the saddle, you will trace the left leg strap back until you come in contact with the saddle. With your head and eves approximately four to six inches

away, for those Jumpers with an aviator kit bag trace the left leg strap forward until your hand is between the quick fit V- ring and the L-shaped ejector snap pad. For those Jumpers with a universal parachutist recovery bag trace the left leg strap forward until contact is made with the left leg strap retainer, remove your index and middle fingers and reinsert them just above the left leg strap retainer, continue to trace up the left leg strap until your hand is between the quick fit V-ring and the L-shaped ejector snap pad. You are ensuring the leg strap is not misrouted around the saddle and that it is not twisted, cut, torn or frayed. That it is properly routed over the bottom portion and under the top portion on the exposed carrying handle of the aviator kit bag, or through the left leg strap retainer on the universal parachutist recovery bag, and the excess webbing is secured in the webbing retainer, that the guick fit V-ring is not rusted, cracked, corroded, bent, or distorted out of shape. Rotate your right thumb up and fully seat the activating lever and conduct a visual inspection to ensure that it is free of any dirt or foreign material would keep it from completely seating. If you have a hard time making fingertip to metal, rotate your fingers skyward and push up until you make fingertip to metal contact with the quick fit V-ring. Conduct a visual inspection to ensure that the quick fit V-ring is not bent, cracked, corroded, rusted, dented or distorted out of shape. Once you have fingertip to metal contact, remove your right hand, and utilize your right forearm, push up and out on the modular airborne weapons case. Now place your right index finger or thumb on the activating lever of the left leg strap and seat it.

While keeping your hands on the activating levers of the ejector snaps rock back on your heels and conduct a visual inspection of the aviator kit bag ensuring it is horizontal across the Jumper's lap, the sewn reinforced side is facing away from the Jumper, and the exposed carrying handle is to the Jumper's left. For the universal parachutist recovery bag conduct a visual inspection to ensure the universal parachutist recovery bag is present, neither leg strap retainer is cut or frayed more than 50%, the folded portions are facing skyward, and the leg strap retainers are facing away from the Jumper. Satisfied with that inspection, drop both hands and stand in front of your Jumper. Secure the bottom of the ALICE pack or MOLLE and issue the command of "recover". Simply allow the ALICE pack or MOLLE to rotate between your body and the Jumper's body.

Now continue your normal sequence of inspection until you give your Jumper the command of "bend". Once you have given the command of "bend", with your left shoulder push up on the bottom of the pack tray, with your left hand simultaneously pull down on the backstrap adjuster. With your right hand, trace the horizontal backstrap across the small of the Jumper's back. When you reach the right horizontal backstrap keeper, ensure it is routed over the horizontal backstrap, under and over the horizontal backstrap keeper, that it is secured with a directional snap fastener, and that it is not twisted, cut, torn, or frayed. Continue to trace to the left horizontal backstrap retainer, ensure it is routed over the horizontal backstrap, under and over the horizontal backstrap keeper, that it is secured with a directional snap fastener, and that it is not twisted, cut, torn, or frayed. Once you have reached the left main lift web, remove your right hand. Form a knife cutting edge with your right hand and insert it behind the horizontal backstrap where it reemerges from the main lift web on the Jumper's left side and trace up until you make contact with the upper tie down tape. Ensure the upper tie down tape is constructed of one turn of 1/4" cotton webbing, is not cut, torn, frayed, or excessively worn, and it is girth hitched to the horizontal backstrap below the backstrap adjuster, and is below the excess webbing of the horizontal backstrap. Also inspect to ensure that the upper tie down tape is properly routed around the modular airborne weapons case. Continue to trace up until you make contact with your control hand, ensuring the horizontal backstrap is not twisted, cut, torn, or frayed, nothing has been misrouted behind it, and that the excess of the horizontal backstrap has been properly secured in its webbing retainer.

Now continue your normal sequence of inspection until you give your jumper the seal of approval.

G-3. COMBAT LIGHT T-11 ATPS AND MC-6 JMPI

Combat Light. There is no specific "sequence" for combat light JMPI. The JM /Safety will inspect the MAWC at manifest call to ensure that it is serviceable and properly rigged. Once Hollywood JMPI has been completed on the jumper, the JM will then attach the MAWC to the Jumper and conduct a technical inspection. The JM will once again ensure that the MAWC is properly rigged and attach the ejector snap, HPT lowering line to the accessory attaching ring, the triangle link or to the left equipment ring as the outermost item of equipment. Once this is complete the JM will then route the lower tie-down strap around the jumper's leg and secure it.

G-4. FIVE-FOOT UNIVERSAL STATIC LINE EXTENSION

Five-Foot Universal Static Line Extension. For jumps from C-17 Globemaster III (and some non-standard aircraft) the USL-M will be configured with the five-foot universal static line extension. JMs must supervise during parachute issue to ensure their jumpers do not draw incorrectly configured parachutes for the aircraft that they will be jumping. The T-11 series parachutes are easily identifiable when configured with a five-foot universal static line extension by one additional stow on the left and right outer static line stow bars and the girth hitch formed by the upper looped portion of the universal static line and the cotton buffer of the five-foot universal static line extension which will be centered between the top two stows. JMs must inspect this prior to detaching the universal static line snap hook from the right outer static line stow bar. Push in on the girth hitch at the upper looped portion of the universal static line and the cotton buffer of the five-foot universal static line extension and visually inspect both for any burns, cuts, or excessive frays (See Figure 6-6). Ensure the five-foot universal static line extension is properly girth hitched to the universal static line modified. Satisfied with the inspection of the girth hitch, pull back on the universal static line modified and five-foot universal static line extension to reseat the girth hitch. Ensure that the girth hitch is properly seated and centered between the 9th and 10th stows. Then remove the universal static line snap hook from the right outer static line stow bar and remove all twists and turns in the static line, but DO NOT BREAK THE FIRST STOW (TOP LEFT INNER) WHEN USING THE FIVE-FOOT UNIVERSAL STATIC LINE **EXTENSION**. Then route the universal static line snap hook over the jumper's appropriate shoulder and connect it to the carrying handle of the reserve parachute with the spring opening gate facing towards the jumper. Move back behind the jumper and stow all excess in a bight in the static line slack retainer band. During JMPI, the JM will simply trace between the top two stows as normal, bypassing the girth hitch of the upper looped portion universal static line and the cotton buffer of the five-foot universal static line extension that has already been inspected, while still keeping constant contact with the thumb or index finger of their working hand. JMs cannot add or remove a fivefoot universal static line extension from any parachute. This is performed by qualified Parachute Riggers only.



Figure G.4 – Inspection of the Girth Hitch of the 5 FT. USL Extension prior to JMPI

G-5. PARACHUTIST DROP BAG JMPI

Begin your normal sequence of inspection and continue until you complete your inspection of the Reserve Parachute. Lift it up high and issue the jumper the command of "HOLD". With both hands form fists with your index fingers exposed. Place your index fingers on the snap hooks of the Adjustable D-Ring Attaching straps. Focus your attention to your left hand. Conduct a visual inspection to ensure that the snap hook is not bent, cracked or corroded and that the opening gate is facing towards the jumper, and it is located to the outside of the right connector snap. Rotate your index finger around and pluck the opening gate for spring tension. Place your index finger on the black interwoven stitch of the nylon portion of the Adjustable D-Ring Attaching strap and trace it down until you make contact with the Triangle Link. Ensure that the nylon portion is not twisted, cut, torn or frayed and the free running end is properly secured in the Webbing Retainer if applicable. Continue to trace until you make contact with the Triangle Link. Conduct a visual inspection to ensure that it is not bent, cracked or corroded. Trace until you make contact with the Black Attaching Loop, ensuring it is routed from bottom to top through the Triangle Link. Ensure the White Attaching Loop is routed from bottom to top through the Black Attaching Loop; the Red Attaching Loop is routed from bottom to top through the White Attaching Loop; and through the Grommet on the Female Portion Leg Strap Release Assembly. The Release Handle Cable is routed through the Red Attaching Loop and secured in the Cable Channel. Continue to trace down until your index finger comes into contact with the 3 Point W/W stitch. Leave your index finger in place.

Now focus your attention on your right index finger, which should still be on the Snap Hook of the Adjustable D-Ring Attaching Strap on the jumper's left side. Inspect to ensure it is not bent, cracked or corroded and that the Opening Gate is facing toward the jumper, and it is positioned between the Left Connector Snap Shackle. Rotate your right index finger around and pluck the Opening Gate for spring tension. Place your index finger on the black interwoven stitch of the nylon portion of the Adjustable D-Ring Attaching strap and trace it down until you make contact with the Triangle Link. Ensure that the nylon portion is not twisted, cut, torn or frayed and the free running end is secured in its Webbing Retainer if applicable. Ensure that the Triangle Link is not bent, cracked or corroded. Trace until you make contact with the Black Attaching Loop, insuring it is routed from bottom to top through the Triangle Link. Ensure the White Attaching Loop is routed from bottom to top through the Black Attaching Loop; the Red Attaching Loop is routed from bottom to top through the Black Attaching Loop; the Red Attaching Loop and secured in the Cable Channel. Continue to trace down until your index finger comes into contact with the 3 Point W/W stitch.

Next, conduct a visual inspection to ensure that the Snap Hook of the Center Securing Strap is connected to the Quick Fit V-Ring and that it is not twisted, cut, torn or frayed and the free running ends are secured in their Webbing Retainers. With your right thumb and index finger, index finger on top thumb on bottom, peel up on the Release Handle. Inspect to ensure the Release Handle is properly routed through the Release Handle Cross Strap and secured by the Hook and Pile Tape. Ensure the Release Handle Cable is routed through the Release Handle Cross-Strap, and the Release Handle is not twisted, reversed, or upside down.

Simultaneously inspect the Center Securing Strap to ensure it is not misrouted through the Release Handle Cross Strap. With your right index finger, form a hook and tug out on the Release Handle Lanyard to ensure that it is not twisted, cut, torn, frayed or routed under any other item of equipment. Secure the sides of the Parachutist Drop Bag and lift it up and out and issue the jumper the command of "HOLD". Jumpers will secure the Parachutist Drop Bag by the Lower Lateral Securing Strap and hold it up high. Place the index finger of your right hand in the vicinity of the girth hitch of the PDB Lowering Line. Conduct an inspection of the Looped End PDB Lowering Line to ensure it has been girth hitched to the Accessory Attaching Ring. Trace the PDB Lowering Line until you come into contact with the lower end of the Permanently Sewn Retainer Flap. Conduct a visual inspection to ensure it is secured and none of the S-Folds are protruding from the end of the Permanently Sewn Retainer Flap. Continue to trace the Permanently Sewn Retainer Flap to ensure there are no rips, holes or tears and at least 50% of the Hook Tape is secured to the Pile Tape until you reach the upper end of the Permanently Sewn Retainer Flap.

When utilizing the HPT Lowering Line, ensure it is secured by two retainer bands or the Permanently Sewn Retainer Flap. Ensure no S-folds are protruding, and the Hook and Pile Tabs are secured. Continue the inspection of the PDB Lowering Line where it protrudes from the lower end of the Permanently Sewn Retainer Flap. Trace the PDB Lowering Line, ensuring it is secured by the Hook and Pile Tabs and is free any twists, cuts, and frays. Trace as far as possible behind the MAWC. Check to ensure that the PDB Lowering Line is routed between the Attachment Strap and the main body of the MAWC (the M1950 Weapons Case is depicted

in the picture).

Route your left hand over your right forearm and secure the trail edge of the MAWC and pull it forward. Remove your right hand and continue the inspection of the PDB Lowering Line with the index finger of your right hand until you reach the Ejector Snap of the PDB Lowering Line. Visually inspect to ensure the Yellow Safety Lanyard is present and it is constructed of one-inch wide tubular nylon webbing and yellow in color. Form a fist around the Ejector Snap. Inspect to ensure it is not bent, cracked or corroded. Conduct an inspection to ensure that it is properly secured to the Triangle Link. Rotate your thumb up and seat the Activating Lever to ensure that it properly seats. Tug it to ensure that it is properly secured to the Darachute Harness. Rotate the Ejector Snap 1/4 turn to the outside and inspect to ensure the small tooth is present on the Opening Gate and is facing towards the jumper.

Move to the front of the jumper and issue the jumper the command of "SQUAT". Continue your normal sequence of inspection. Once both leg straps and the universal parachutist recovery bag have been inspected, secure the sides of the parachutist drop bag issue the jumper the command of "Recover". Jumpers will pick up on the reserve parachute and Jumpmasters simply allow the PDB to rotate back into position. Now continue your normal sequence of inspection of the jumper until you issue the seal of approval. Route the adjustable leg straps in the same manner as the HSPR.

PDB Technical Inspection. To conduct a detailed technical inspection of the PDB, you will begin by placing the PDB on the ground with the PDB lowering line facing downward. Inspect the center securing strap and both vertical securing straps as well as both lateral securing straps to ensure they are properly secured and tightened down. Ensure both zippers are fully engaged and closed. Start with the left snap hook of the adjustable D-ring attaching strap. Inspect it as you would during your normal JMPI sequence by insuring it is not bent, cracked or corroded and that the opening gate of the snap hook has proper spring tension. Inspect the right snap hook of the adjustable D-ring attaching strap the same way. Once again starting with the left adjustable D-ring attaching strap, trace down the nylon portion, insuring it is not cut or frayed. Once you reach the triangle link, inspect the Triangle Link to ensure it is not bent, cracked or corroded. Conduct a visual inspection of the 3 color coded attaching loops to ensure they are properly secured with the black attaching loop routed from bottom to top through the triangle link, the white attaching loop routed from bottom to top through the black attaching loop and the red attaching loop and the red attaching loop and secured in the cable channel. Conduct the same inspection for the right adjustable D-ring attaching strap.

Now you will conduct a visual inspection to ensure that the snap hook of the center securing strap is connected to the quick fit v-ring under the release handle cross strap and that the nylon webbing is not twisted, cut, torn or frayed and the free running ends are secured in their webbing retainers. Ensure the center securing strap is not misrouted through the release handle cross strap. With your right thumb and index finger, index finger on top thumb on bottom, peel up on the release handle. Inspect to ensure the release handle is properly routed through the release handle cross strap and secured by the HPT and the release handle cable is routed through the release handle cross-strap, and the release handle is not reversed or upside down.

- (1) Lightly tug on the release handle lanyard, simultaneously conducting a visual inspection to ensure it is not twisted, cut, or frayed or misrouted under any item of equipment. Turn the PDB over and inspect adjustable leg straps. Ensure they are serviceable and that both male portion carrying straps can be secured to their respective female portion leg strap release assemblies.
- (2) Trace the PDB lowering line or HPT lowering line in the same manner as discussed above for JMPI, ensuring no S-folds are protruding from the permanently sewn retainer flap or retainer flap. Inspect the ejector snap to ensure it is not bent, cracked, or corroded, and small tooth and yellow safety lanyard are present. Once the inspections of the PDB and MAWC have been conducted, attach both to the jumper as previously described and route the appropriate adjustable leg straps. Since the process of hanging equipment planeside will increase the time required to load the aircraft, ensure that proper prior coordination has been done with the GLO and the USAF guides. Note that the PDB lowering line may come with a single loop yellow safety lanyard that is different from the double loop yellow safety lanyard included with the HPT lowering line. If this is the case, and the single loop of type II or type III nylon cord is not gutted, the ejector snap hook pile tape lowering line may not completely seat.

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• Appendix H. Serious Incident Response Procedures and Checklist

a. This Appendix consolidates the initial procedures used in AR 59-4, AR 385-10 and XVIII Airborne Corps Directive for Training Accident Evidence Preservation dated 8 September 2014, so that all parties of an Airborne Operation that experiences an incident involving serious injury or fatality are synchronized. <u>Serious Malfunctions (i.e., no lift capability, multiple complete malfunctions on a pass, etc.), that don't cause serious injury or fatality must be treated in the same manner as a serious injury/fatality and investigated thoroughly. This Appendix is not the complete investigative process. Further details can be found in Appendix B; AR 59-4 (Rapid Action Revision June 2009).</u>

(1) The needs of the casualty outweigh security and preservation of evidence.

- (2) The Malfunction Officer, Airborne Commander, and the DZSTL/DZSO will ensure security is established on the site and only the necessary medical PAX are allowed access to the site until all injured PAX are removed. The Malfunction officer will observe the actions being taken to treat and evacuate casualty(s) during this time to note the initial disposition of items in the area and confirm if the medical PAX had to move/cut any airborne items during their actions.
 - i. CID has priority on the site once all casualties have been evacuated/treated. The unit's Safety Representative and/or Airborne Commander/DZSO/Malfunction Officer will coordinate with CID before they depart the site to ensure they have an accurate inventory of all items CID is securing.
 - ii. The unit's Safety Representative will have priority on the site once CID has completed their initial investigation. They will start the collection of any additional information needed IOT ensure all available information is collected for the Accident Investigation Board that will complete the safety investigation IAW AR 385-10.
 - iii. The Malfunction Officer will assume control of the site once the Safety Representative has completed their initial investigation IOT gather any additional information they may need for the AR 59-4 investigation requirements. Both CID and the Safety Representative will require the assistance of the Malfunction Officer during their initial investigation IOT gain the Malfunction Officer technical expertise. NOTE: If environment issues have the potential to impact the incident site, the Malfunction Officer will start evidence collection immediately on the site but not leave until CID and the unit's Safety Representative have interviewed him and secured any evidence, they deem important.
 - iv. CID/ Safety/Malfunction Officer/DZSTL or DZSO/Airborne Commander should all share contact information and an accurate inventory of all items each team is securing.
- b. Incident Involving Life Threatening Injuries Or Death Or Incidents Based On Severity By The Airborne Commander.
- (1) Any Observer. Immediately notify the DZSO/DZSTL and the Malfunction Officer.

(2) DZSO/DZSTL.

- i. Cease airborne operations.
- ii. Immediately notify Malfunction Officer.
- iii. Immediately notify the DACO.
- iv. Immediately notify the Airborne Commander.
- v. Place the impact site off limits. PAX allowed access to the site are:
 - A. Medical Coverage Team/Emergency Medical Technicians.
 - B. Malfunction Officer/ Photographer.
 - C. DZSO/DZSTL.
 - D. Military Police/CID.
 - E. Unit Safety PAX.

- vi. Post a guard(s) as required so site remains undisturbed until relieved by the Malfunction Officer. Allow medical PAX access to the injured jumper(s).
- vii. Ensure the aircraft involved is notified as soon as possible. This enables the aircrew to notify Safeties to stop removing USL snap hooks from the anchor line cable and also allows the aircrew to inspect for any defects or damage that may have contributed to or caused the malfunction.
- (3) Medical Coverage Team.
 - i. Render aid as necessary.
 - ii. Senior Medic makes determination if any Jumpers injury are potentially life threatening.
 - iii. Notify DZSTL/DZSO if AERO-MEDEVAC is required.
- (4) DACO.
 - i. Immediately notify the Air Shop/GLO.
 - ii. Immediately notify Airborne Commander.
 - iii. Prepare necessary paperwork in order to collect statements according to Appendix D, Serious Incident Checklist for DACOs.
 - iv. Collect all required data to properly fill out and complete the Airdrop Serious Incident Report found in Appendix D.
 - v. Prepare FLASH Report for Air Shop's approval; however, the DACO will not release the FLASH report to anyone but the Air Shop or GLO if one is employed.
 - vi. Upon return of the aircraft, ensure all jumpers and JMs remain on the aircraft until CID, USAF DZC, Safety and Parachute Rigger's conduct inspections of the aircraft.
- (5) Air Shop.
 - i. Immediately notify USAF C2 at the DAF of the serious incident. This will ensure the aircraft involved is notified as soon as possible. This enables the aircrew to notify Safeties to stop removing USL snap hooks from the anchor line cable and also allows the aircrew to inspect for any defects or damage that may have contributed to or caused the malfunction
 - ii. Immediately notify Range Control of the serious incident.
 - iii. Immediately notify unit Operations Center of the serious incident.
 - iv. Secure video from onboard camera for investigative team

(6) Operations Center.

- i. Immediately notify the Safety Officer.
- ii. Immediately notify unit leadership in accordance with CCIR.
- iii. Immediately notify the unit's Surgeon Cell/Senior Medical PAX.
- iv. Immediately notify the unit's PAO IOT allow them to start monitoring media activity/request.
- v. Contact chain of command to ensure they are aware of the situation.
- vi. Ensure CID has been informed and what other agencies the installation has dispatched for situational awareness.
- vii. Coordinate with the hospital that any casualties have been evacuated to IOT ensure they secure and

preserve all clothing and equipment associated with the evacuated person.

- (7) Malfunction Officer.
 - i. Notify senior airdrop system technician of unit providing parachute.
 - ii. Photograph the scene.
 - A. Jumper.
 - B. Impact site.
 - C. Obvious defects in the equipment (including any damaged caused by impact).
 - D. Record where the parachute harness or component was cut by medical PAX. Trained medical PAX dictate the method of removal of the parachute harness. If possible, the Malfunction Officer dictates the location of the cut in order to preserve evidence.
 - iii. Secure and impound the parachute log record book and limit this document to **only** the appointed investigative officer.
 - iv. Request medical PAX secure and preserve all clothing and equipment that is removed from the impact site with the jumper.
 - v. Conduct a detailed component-by-component examination of all equipment after the jumper has been evacuated.
 - vi. Take statements from the preceding jumpers, subsequent jumpers, JMs, any ground observers, and other jumpers or aircraft PAX able to provide significant facts.
 - vii. Record the name and unit of any PAX who observed the incident even if they can provide no new facts to the investigation.
 - viii. Secure a copy of the DA Form 1306 and reconstruct the jump stick from PAX present, if required. Gather all air items and PAX equipment, except weapons, unless a weapon is part of or a possible cause of the malfunction.
 - ix. Sketch the entire impact site in relation to the DZ and mark the impact point of the jumper and equipment.
 - x. Request segregation and identification of parachute deployment bags from those of other aircraft.
 - xi. Obtain the deployment bag serial number from the parachute log record book. Retrieve and secure the deployment bag with the parachute assembly until the investigation is complete.
 - xii. Ensure equipment is tagged and the parachutes are loosely rolled and bagged when the on-site investigation is complete.
 - xiii. Evacuate all equipment to an area where it is subjected to a technical Parachute Rigger inspection IAW the appropriate TM 10-1670 series manual.

(8) JM Team.

- i. Upon notification of serious incident, cease removing the USL snap hooks from the anchor line cable.
- ii. Seat all currently hooked up PAX down without unhooking them from the anchor line cable.
- iii. Segregate deployment bags if possible.
- iv. Render required statements and await release from DACO.
- (9) Unit Safety PAX.
 - i. The Unit Safety Officer will be notified by the Operations Center or unit equivalent of the incident and will make arrangements for a Safety representative to respond to the site.
 - ii. Upon arrival, the Safety representative will coordinate with the Malfunction Officer and the DZSTL/DZSO for

preservation of the evidence and the impact site.

(10)CID/ Law Enforcement PAX.

- i. Representative from CID, Military Police, or other Law Enforcement PAX will be contacted and respond to the site. Depending on the notification time and time to respond, the Malfunction Officer along with support from the DZSTL/DZSO will secure the site until CID arrives.
- ii. CID will assume custody of the site to conduct their own investigation. If criminal involvement was not a factor in the accident, the accident scene will be released to the Unit Safety Officer of the responsible unit.
- iii. Upon completion of the on-site investigation, CID will collect, and transport all identified items of evidence to their evidence depository, ensuring evidence chain of custody and integrity is maintained, until it is released to the Safety investigation team.
- iv. Coordinate with the hospital that the casualty(s) was evacuated to IOT ensure they protect and preserve all clothing and items associated with the evacuated person(s).

(11) Airborne Commander.

- i. Notify the chain of command.
- ii. Notify Operations Center.
- iii. Determine if airborne operations will cease based on severity of the incident and input from Malfunction Officer and the deliberate risk assessment authority.
- iv. Initiate a communications blackout for all PAX present and supporting the airborne operation.
- v. BPT to assist Malfunction Officer/Safety PAX with security of the impact site.
- vi. Coordinate with CID for the POC for the investigation and POC information of their representative that went to the hospital where the casualty(s) was evacuated. Provide the POC information to the higher HQ/Operations Center.
- vii. Maintain a log of all items removed from the site by all investigation teams.



Personnel Malfunctions Serious Injuries or Death Flow Chart





Personnel Malfunctions Flow Chart WITHOUT SERIOUS INJURY

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• Appendix I. Administrative Records and Finance

I-1. JUMP LOG MANAGEMENT

- (a) Unit jump log custodians, unit air teams, MJMs and/or JMs must be thoroughly familiar with how to properly fill out and manage the Individual Jump Record (DA Form 1307). Jump log custodians should be thoroughly briefed on their remit. Custodians should be responsible and organized.
- (b) Below is the policy on how to construct and maintain the unit's jump logs. Compliance with the below procedures is mandatory for all units. This information is updated and stored in hard copy form, as well as updated in DTMS as required by unit SOP. References include:
 - (1) DoD Financial Management Regulation, Volume 7A, Chapter 24, dated December 2021.
 - (2) DoD Instruction 1340.09 Hazard Pay Program dated 26 January 2018. The guidance contained is retroactive to August 2017.
 - (3) Unit specific policy letters and regulations.
 - (4) Scope: The Individual Jump Record (DA Form 1307) is used to track the jumps, jumpmaster associated schooling and duties, and periods of formal sustainment training performed by the individual paratrooper for training currency, Hazardous Duty Incentive Pay (HDIP) entitlement, and rating purposes. The correct and accurate recording of the paratrooper's jumps is required to ensure that the paratrooper is entitled to pay and is a proficient jumper. Every paratrooper on airborne status will have a Jump Log, consisting of Hazardous Duty Orders (HDO), Individual Jump Record (DA Form 1307), and other supporting documents.
- (c) Jump Log Composition. Jump Logs will consist of the following:

ltem	Remarks
Administration	
Coversheet.	Contains sufficient data to identify unit and jumper.
Inspection log.	Record of inspection.
Qualifications	
Hazardous Duty Orders.	Must be in a Paid Parachute Position.
Parachute Badge/SQI/ASI orders.	Basic, Senior, Master, Pathfinder as appropriate.
JM certificate.	If gualified.
Entitlement/Currency	
Individual Jump Record (DA Form 1307).	Up to date and certified. The new form is dated APR 2018. All jumps and jumpmaster duties (with Safety/DACO/DZSO) will be annotated.
Miscellaneous/Training	
Deployment Waiver.	For any period of deployment after effective date of hazardous duty orders: O-7 authorization required.
Three-Month Waiver.	For a three-month pay period in which the jumper was unable to jump as a result of one of the prescribed reasons; O-5 authorization required.
Memorandum for Record Stating That the	For any period when an injury that is inflicted, through no fault of
Service Member Is on Profile.	the jumper, that prevents them from meeting entitlement requirements.
Collection of HDIP.	Certified documents showing collection of parachute pay for months when entitlement criteria are not met.
BAR Slip.	If more than 180 days has elapsed since the last jump, BAR is required.
JM pretest slip (if applicable).	For JM school candidates.
JM refresher slip.	If more than 180 days has elapsed since the last qualifying duty, JMR is required.
Record of training.	DMJP, SMJP, etc. training certification documents.

TABLE I.1 – JUMPER/ JM LOG COMPOSITION AND RECORD KEEPING

(d) Jump Log Management

- (1) Jump Logs/DTMS Record will be maintained at the orderly room level. Companies ensure that they are updated and certified; S-1/S-3 will inspect.
- (2) Jump Logs/ DTMS Record will be updated after each airborne operation and reviewed monthly by the company custodian. Inspections will be conducted by the chain of command quarterly. S-1/S-3 will conduct spot checks monthly and review every log every six months.
- (3) The focus of these reviews is to ensure that logs are present, recent jumps added, and currency/entitlement requirements are being met. Review will be annotated in the inspection log.
- (4) With the increased usage of digital tracking for jump tracking (DTMS and/or Excel), identification of paratroopers requiring a jump in that particular month for currency has been simplified. Jump Log custodians should maintain Jump Logs organized alphabetically by the paratrooper's last name per subordinate UIC as listed on the AAA-162, *Unit Personnel Accountability Report.*
- (5) Jump Logs will be inventoried monthly against a by-name unit roster (AAA-162) to verify accountability and that they are filed correctly.
- (6) Access to Jump Logs will be controlled, and an access roster will be maintained. PAX authorized to update Jump Logs will have additional duty orders.
- (e) HDIP (Parachute Pay)
 - (1) To qualify for parachute pay, a service member is required to be in a paid parachutist position, be issued hazardous duty orders, and jump once during every three-month pay period. The three-month periods are fixed blocks of time that begin when hazardous duty orders are issued. Parachute pay will be pro-rated during the month in which the hazardous duty orders are issued. That month will be the first month of the first three-month pay period.
 - (a) Six-Month Coverage Rule: if the service member is unable to perform a jump within a three-month pay period, due to circumstances beyond their control, they may jump twice during a six-month period in order to maintain parachute pay for two consecutive three-month pay periods. Proficiency must be maintained through refresher training in lieu of jumping in order to retain eligibility for parachute pay.
 - (b) Three-Month Waiver: requires the signature of a commanding officer in the grade of O-5. This allows a service member to forego the jump requirement for only one three-month pay period within a year for the following three reasons:

-Non-Availability of Jump Equipment or Aircraft. -Attendance at Military Education or Training Lasting Less Than 179 Days. -Inclement Weather.

- (c) Deployment Waiver: requires the signature of a commanding officer in the grade of O-7 or above. This applies to service members who are unable to jump for an unspecified period of time as a result of combat or being operationally deployed. Upon returning from deployment, the service member must complete BAR and jump within three months.
- (d) Service members who become injured or ill that did not result from their own misconduct may continue to receive parachute pay for up to six months from the date of the injury or illness. On a case-by-case basis, parachute pay may be extended for an additional six months based upon the recommendation of the appropriate medical authority.
- (e) Parachute pay will be terminated for service members who have been deemed permanently disqualified or are no longer able to perform the duties required for parachute pay, as determined by a competent medical authority.

- (f) Collection of Parachute Pay.
 - (1) If a service member fails to perform the duties required for parachute pay, and does not have a waiver, then parachute pay will be discontinued; any pay that was unearned, will be recouped. Parachute pay will be reinstated when the service member meets the requirements for parachute pay.
 - (2) Paratroopers will be counseled as to the fact that they are having money collected from their pay. The counseling will be included with the supporting documentation. This counseling is not performance counseling and will be uncharacterized it is neither positive nor negative; it simply serves to notify the paratrooper of the financial transaction. This does not preclude the matter being documented in other performance-related counseling.
- (g) Individual Jump Record (DA Form 1307), Entries (see Figure I.1).
 - (1) Entries on Individual Jump Record (DA 1307) will be used to document jumps and jump-related PAX actions.
 - (2) Opening date corresponds to the date on the individual's hazardous duty orders.
 - (3) Transfers between airborne-coded positions will be indicated by a "Log Transferred" entry. This includes combat deployments or operational deployments (DoDI 1340.09 Section 3.4d) which will be annotated with deployment and redeployment dates. These periods of deployment must have the accompanying waiver documentation.
 - (4) Three-Month Waiver will be indicated by an entry in the Individual Jump Record (DA 1307) denoting the pay period being waived. Accompanying documentation must be present in the Jump Log Record.
 - (5) Entries for sustainment training should include the type and date of the training.
 - (6) Only Permissive Jump Status will be annotated with "not for pay."
 - (7) Examples of jump record entries are shown in Figure I.1.
- (h) Conducting a Permanent Change of Station.
 - (1) Orders to perform hazardous duty remain in effect when member is being reassigned PCS successively to hazardous duty. If the member cannot be immediately assigned to a hazardous duty position at a new station, orders to perform such duty will be terminated effective the date of arrival at new duty station and incentive pay stopped as of that date. When successive assignment does not require hazardous duty as an essential part of military duty at the new permanent duty station, orders to perform such duty will be terminated effective to perform such duty will be terminated effective to perform such duty as an essential part of military duty at the new permanent duty station, orders to perform such duty will be terminated effective the date of departure from old duty station (or TDY point if performance of hazardous duty is required as an essential part of military duty at the TDY point) and incentive pay stopped as of that date (page 24-26 Volume 7a, Chapter 24 of DoD 7000.14-R FMR).
- (i) Parachute jumps performed while on leave or TDY, not requiring parachute jumping as an essential duty, do not count for HDIP entitlement.

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	LUZON DZ		A/NT/N	T-11	CI3	30J -	01 APR 2018	01 APR 2018 APR-MAY-JUN
		- PAY PERIOD	COVERED BY	0-7	WAI	VER	VER (UP TO 12 Months)	VER (UP TO 12 Months) [PRINT NAME]
-		PAY PERIOD	COVERED BY	MEDICAL	PROFI	Æ	LE (UP TO 6 Months)	LE (UP TO 6 Months) [PRINT NAME]
-		- PAY PERIOD	COVERED BY	BDE SURGEON	(Ext Profile 6 1	nonths	nonths) (Total of 12 months)	nonths) (Total of 12 months) [PRINT NAME]
70	SICILY DZ	PWAC	A/NT	T-11	C130H		09 DEC 2018	09 DEC 2018 DEC-JAN-FEB
-		- JUMPMASTER	SCHOOL	GRADUATED	USAAAS		10 DEC 2018	10 DEC 2018 [PRINT NAME]
-		- LOG	TRANSFERRED	TO USAAAS	82ND ABN I	DIV	DIV 11 DEC 2018	DIV 11 DEC 2018 [PRINT NAME]
-	HOLLAND DZ	SAF	A/NT		C130H		12 DEC 2018	12 DEC 2018 BASELINE
~	NORMANDY DZ	SAF	MT/CE		C130H		14 DEC 2018	14 DEC 2018 BASELINE
271	NORMANDY DZ	AJ	A/NT/CE	T- 11	C17		16 DEC 2018	16 DEC 2018 JUMP CURRENCY
-	SICILY DZ	ADACO	MT/CE		C130H		03 JAN 2019	03 JAN 2019 NFC
-	SICILY DZ	ADZSO	A/NT/CE		C17		01 JAN 2019	01 JAN 2019 NFC
-	SICILY DZ	DZSO SHADOW	MT/CE -		C130H	1	H 02 JAN 2019	4 02 JAN 2019 DZSO w/in 180 days
-		JUMPMASTER	REFRESHER	COMPLETED	USAA	AS	AS 01 AUG 2019	AS 01 AUG 2019 [PRINT NAME]
-		- LOG	CLOSED	USAAAS	82ND ABN	IDIV	1 DIV 25 DEC 2019	DIV 25 DEC 2019 [PRINT NAME]
AF	ORM 1307, APR 20	118	PRE	EVIOUS EDITIONS ARE	E OBSOLETE.			APD AEI

Figure I.1 – Example 1307 Individual Jump Log

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• Appendix J. TAP Configurations.

J-1. GENERAL INFORMATION.

a. General Information.

- (1) The illustrations and content in this Appendix are direct from the Air Force Instructions listed in CAASOP paragraph 4-5a, unless it is marked by two ** before and after the content.
- (2) The established time needed to re-configure aircraft will be considered when calculating crew rest. U.S. Army planners and Airborne Commanders need to be conscious of the second order effects of making last minute configuration changes.

J-2. C-130 HERCULES.

a. TAP-1 Configuration C-130, page 39.

NOTES:

1. Provides the maximum paratroop carrying capability; 66 seats, on 24-inch centers (20 inch- centers on sidewall seats aft of the wheel well), with 64 seats offered...

Install center anchor cable supports, jump platforms, and two anchor cables each side to inboard and center position IAW T.O. 1C- 130A-9, Chapter

A maximum of 20 paratroopers may be attached to a single cable.

Time to configure is two persons, two hours.

Recommended number for T-11 ATPS/Combat Equipped (training) is 52 jumpers and two safeties with this configuration and seat allotment.



AFI 11-2C-130 V3 ADDA, Figure 3.17

- b. TAP-2 Configuration C-130, page 43.
 - NOTES: 1. Provides the maximum in-flight parachutist rigging capability; 56 seats, on 20-inch centers, with 54 seats offered (long-range mission) Install center anchor cable supports, jump platforms, and one or two anchor cables on each side, as required, to inboard and center positions IAW T.O. 1C-130A-9, Chapter 3. When only one cable is installed, either center or inboard positions may be used provided like patterns are maintained on the opposite side of the aircraft. A maximum of 20 paratroopers may be attached to a single cable.

Time to configure is two persons, two hours.

Recommended number for T-11 ATPS/Combat Equipped (training) is 44 jumpers and two Safeties with this configuration and seat allotment.



AFI 11-2C-130 V3 ADDA, Figure 3.19

c. A*TAP-2 Configuration C-130, page 44.

Recommended configuration for in-flight rigging, regardless of if armor is installed on the aircraft or not.

 NOTES: (Protective Armor Installed) Provides the maximum in-flight parachutist rigging capability; 42 seats, on 20-inch centers, with 40 seats offered (long-range mission) ... Install center anchor cable supports, jump platforms, and one or two anchor cables on each side, as required, to inboard and center positions IAW T.O. 1C-130A-9, Chapter 3. When only one cable is installed, either center or outboard positions may be used provided like patterns are maintained on the opposite side of the aircraft. A maximum of 20 paratroopers may be attached to a single cable. Time to configure is two persons, two hours.



AFI 11-2C-130 V3 ADDA, Figure 3.20
J-3. C-130/J-30 SUPER HERCULES.

- a. TAP-1 Configuration C-130J-30, Page 39.
 - (1) NOTES: Ninety-two-troop seats (seat belts on 24 centers); 90 seats offered. Exception: Outboard seats aft of wheel well may be in 20-inch configuration.

A maximum of 31 paratroopers may be attached to a single cable.

Time to configure is two persons, 3.5 hours.

Configuration modifications are authorized to meet mission operational and safety requirements.

Recommended number for T-11 ATPS/Combat Equipped (training) is 74 jumpers and two Safeties with this configuration and seat allotment.



- b. TAP-1 MOD Configuration C-130J-30, page 40.
 - (1) NOTES:1. Seventy-nine two-troop seats (seat belts on 24-inch centers); 77 seats offered. EXCEPTION: Outboard seats aft of wheel well may be in 20-inch configuration Time to configure is two persons, three hours.

Recommended number for T-11 ATPS/Combat Equipped (training) is 64 jumpers and two safeties with this configuration and seat allotment.



AFI 11-2C-130 V3 ADDA, Figure 3.21

- c. TAP-2 Configuration C-130J-30, page 41.
 - (1) Eighty-two troop seats (seat belts on 20-inch centers); 80 seats are offered. This configuration is for in-flight rigging of paratroopers on long-range missions...

Install center anchor cable supports, jump platforms, and 1 or 2 anchor cables on each side, as required, to inboard and center positions IAW TO 1C- 130J-9, section III. When only 1 cable is installed, either center or inboard positions may be used provided like patterns are maintained on the opposite side of the aircraft. A maximum of 31 paratroopers may be attached to a single cable...

Time to configure is two persons, two hours.

Center aisle seats 1 and 2 may be used provided the aircraft C/G limits for takeoff are not exceeded. Once airborne these seats may be used for in-flight rigging.

Recommended number for T-11 ATPS/Combat Equipped (training) is 70 jumpers and two Safeties with this configuration and seat allotment.





Quantity

Waight

Station

Momont

J-4. C-17 GLOBEMASTER III.

a. C-17 ADP-3 Configuration, Page 27.

	& annuit		OTH TO A	- ACCHARCENE
Reference 5, DD Form 365-4 (Steward's Equipment)				
Water container (5 Gallon)	3	120	358	4.3
Std 2 gal liquid containers	1	25	260	.7
Hot cup	1	3	260	.1
Human Waste Clean-up kit	1	5	280	.1
Blankets, large	6	21	280	.6
Pillows, large w/case	6	12	280	.3
Blankets, small	54	54	dist (744)	4.0
Pillows, small w/case	54	27	dist (744)	2.0
Expendable supplies		10	260	.3
ATGL	1	3620	391	141.5
	TOTAL	3897		153.9
Reference 6, DD Form 365-4 (Emergency Equipment)				
LPU-6/P life preservers (infant cot)	3	12	280	.3
A/C life preservers	110	165	dist (744)	12.3
Protective Clothing Kit (PCK)	1	36	280	1.0
Emergency Passenger Oxygen System (EPOS)	102	204	dist (744)	15.2
Protective Breathing Equipment (PBE)	6	30	dist (744)	2.2
Parachute	2	56	280	1.6
Aircrew Body Armor	7	80.5	280	2.3
Survival Vest	7	59.5	280	1.7
	TOTAL	643		36.6
Reference 7, DD Form 365-4 (Extra Equipment)				
Maintenance Technical Order File	1	30	305	.9
Aircraft Armor	1	1125	217	24.4
Flares/Flare Cans	6	255	dist (744)	19.0
Flare Hazard Placards	4	20	400	.8
	TOTAL	1430		45.1
				0



NOTES:

1. 102 troop seats available. Crew complement and mission profile governs number of seats offered. Large crew complements may further reduce the number of seats offered.

2. Center line seats start at FS 476.

2. ADS rails, logistic rails and roller conveyors stowed except for the ATGL position. A maximum of four HCU-6/E pallets can be loaded on the ramp.

3. When aft anchor cable supports are installed, maximum pallet heights in the logistics rail system will be limited as follows: 8L/R, 54"; 9L/R, 37".

Ramp toes (4) installed in the high position with rollers and guide rails removed for troop loading. Ramp toes installed in the low position with rollers and guide rails installed for pallet loading.
Install anchor cable supports and anchor cables IAW TO 1C-17A-1-4, and Job Guides.

6. Time to configure with two people is 2 hours and 15 minutes.

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• Appendix K. List of Relevant National Stock Numbers.

The following list is meant to provide a resource by which unit supply officials can more easily source critical items of equipment for airborne operations.

1/4" Cotton Webbing (500 yd spool): 8305-00-268-2411 Masking Tape, 1" wide (60 yd spool): 7510-00-685-4963 Retainer Band, Type 1 (Bag of 100): 1670-00-568-0323 Retainer Band, Type 2 (Box of 100): 1670-01-323-9900 Retainer Band, Type 64 (Bag of 100, large): 7510-00-243-3435 Tape, Pressure Sensitive, Adhesive, Olive Cloth ("100 MPH Tape"): 7510-00-266-5016 Pad, Suspension (3/4", set of seven): 8470-01-546-9420 Modified Chinstrap Assembly (w/ Hardware): 8470-01-530-0868 Universal Shroud (Tan, low profile night vision mount): 5855-01-569-7751 Lowering Line Assembly (HPTLL): 1670-01-067-6838 Harness, Single Point Release (Complete): 1670-01-227-7992 Shoe Tag (Box of 1000): 8135-00-292-2354 Ear Plugs (Box of 200 pairs): 6515-00-137-6345 DIC-3 Anemometer: 6660-00-X03-9572 Turbometer Anemometer: 1670-00-T33-9004 VS-17 Marker Panel: 8345-00-174-6865 Light, Beanbag (marking heavy drop platforms in limited visibility): 6230-00-115-9996 PIBAL (10g, Tactical): 6660-00-663-7933 PIBAL (30g, Non-Tactical): 6660-00-663-8159 PIBAL Light (for attachment in low-visibility conditions): 6660-00-839-4927 Cellulose Wadding: 8135-00-664-6958 Webbing, 1/2" Tubular Nylon: 8305-00-082-5752 Floor Mounted Anchor Line System (for UH-60 Blackhawk): 1670-00-999-3544 Safety Belt, Troop Type, C3A (for UH-60 Blackhawk cargo door): 1670-00-447-9504 Cargo Strap, CGU1-B: 1670-00-725-1437 Waistband Adjuster Panel Extension Strap (WAPES): 1670-01-677-9460 Hook Disks (Velcro), Helmet (Roll 450): 8470-01-506-6742 Type II, Type III Nylon Rope (550 Cord; Roll 500yd): 4020-00-246-0688 Bubble Wrap: 8135-01-381-6525

CAADS Specific Materials

Pad, Energy Dissipate, Paperboard Honeycomb (8 shts, 96"x36"x3"): 1670-00-753-3928 Sling Assembly, Cargo Airdrop, A-7A: 1670-00-251-1153 D-Ring, Heavy Duty: 5365-00-937-0147 Adhesive, Pate, 1 gal (for paperboard honeycomb): 8040-00-273-8713 Plywood, 1"x48"x96" (1 sheet): 5530-00-914-5118 Plywood, 1/2"x48"x96" (1 sheet): 5530-00-129-7777 Plywood, 3/4"x48"x96" (1 sheet): 5530-00-128-4981 Nylon Webbing, Type X: 8305-00-261-8584 Felt Sheet: 8305-00-264-6153

IHPS

SMALL HELMET: 8470-01-672-2752 MEDIUM HELMET: 8470-01-638-3182 LARGE HELMET: 8470-01-672-2383 X-LARGE HELMET: 8470-01-671-9927 NAPE RETENTION SYSTEM X-BACK RH S/M: 8470-01-672-0777 NAPE RETENTION SYSTEM X-BACK LH S/M: 8470-01-672-0741 NAPE RETENTION SYSTEM X-BACK RH L/XL: 8470-01-672-0796

NAPE RETENTION SYSTEM X-BACK LH L/XL: 8470-01-672-2260 NAPE RETENTION SYSTEM H-BACK RH S/M: 8470-01-672-0763 NAPE RETENTION SYSTEM H-BACK LH S/M: 8470-01-672-2305 NAPE RETENTION SYSTEM H-BACK RH L/XL: 8470-01-672-2292 NAPE RETENTION SYSTEM H-BACK LH L/XL: 8470-01-672-0705 PAD SET HELMET SMALL: 8415-01-671-9734 PAD SET MEDIUM/LARGE: 8415-01-671-9671 PAD SET SYSTEM X-LARGE: 8415-01-671-9600

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• Appendix L. Army Airborne Board Committees

- a. **Mission and Purpose.** To facilitate the Commanding General, XVIII Airborne Corps in the execution of his or her roles and responsibilities as the Army lead for conventional airborne forces and to create unity of effort in addressing doctrine, operations, training, materiel, leadership and education, personnel, facilities and policy (DOTMLPF-P). The AAB is a forum to discuss issues across the DOTMLPF-P affecting conventional airborne forces. The AAB will present recommendations through the appropriate Army command, agency, or organization for review, disposition, and implementation. The composition of the AAB includes those commands, organizations, and agencies required to resolve topical issues and enable effective decision making by the 2 board directors. The AAB is composed of Army Active and Reserve Component representation from conventional force airborne units that execute static line or aerial delivery operations and from institutional organizations that provide DOTMLPF-P support to conventional force airborne units.
- b. Direction and control: Chief of Staff, U.S. Army.
- c. AAB Committee Structure and Membership. The AAB will be composed of 14 voting members to include the Chairman and Board of Directors (BoD). Non-voting members will participate and provide advice and assistance to the chairman.
 - (1) **Chairman:** Commanding General (CG), XVIII Airborne Corps. Receives voting recommendations from BoD and makes final decisions for all recommendations.
 - (2) **Board of Directors:** Votes to a simple majority on select topics, which are then presented as recommendations to the Chairman for final determination.
 - (a) DCG, U.S. Army Special Operations Command (USASOC).
 - (b) DCG, U.S. Army Forces Command (FORSCOM).
 - (c) DCG, U.S. Army Training and Doctrine Command (TRADOC).
 - (d) DCG, Army Materiel Command (AMC).
 - (e) DCG, Army Futures Command (AFC).
 - (f) Deputy Chief of Staff, G-1 (DCS, G-1).
 - (g) Deputy Chief of Staff, G-3/5/7 (DCS, G-3/5/7).
 - (h) Deputy Chief of Staff, G-4 (DCS, G-4).
 - (i) DCG, U.S. Army Pacific (USARPAC).
 - (j) DCG, U.S. Army Europe (USAREUR).
 - (k) CG, Human Resources Command (HRC).
 - (I) DCG Operations (DCG-O), U. S. Army Reserve Command (USARC).
 - (m) Director, Integrated Logistic Support Center (ILSC).
 - (3) Non-Voting Members: Non-voting members are designated by the Charter and augmented by the Chairman. Non-voting members provide advice and consultation relative to conventional airborne forces for their respective areas of expertise. Non-voting members provide the composition of each of the six Standing Committees. Non-voting members are normally the Commanders and CSM's of Brigade-size airborne organizations or COL/GS-15 civilian equivalent within research, development, integrating and production agencies. For a detailed list of members refer to the Army Airborne Board Charter on the XVIII Airborne Corps AAB DEPS Portal at: https://army.deps.mil/army/cmds/18abc_ps/g357/AAB/SitePages/Home.aspx.
- d. **Standing Committees.** Standing committees will be organized and assigned by the Chairman to examine issues and exploratory topics relevant to conventional airborne forces. Assignments are specified in Annex D of the AAB SOP located on the XVIII Airborne Corps DEPS page under "*Army Airborne Board, Governing Documents*". General areas of responsibilities are identified below.
- (1) **Doctrine and Organization** (Director- CG, MCoE). Focused on U.S. Army concepts, principles, policies, tactics, techniques, practices, and procedures essential to structuring units in order to train, equip, and employ tactical forces.
- (2) Joint Operations (Director- DCG, XVIII ABN Corps). Focused on joint and multi-national military activities, operations, capabilities, limitations, organizations, and interests for training, equipping, and employment of airborne forces.

- (3) Interoperability Committee (Director Deputy CG, USASOC). Focused on interoperability between US and foreign nations as it pertains to military activities, operations, capabilities, limitations, organizations, and interests for training, equipping, and employment of airborne forces.
- (4) **Training and Standardization** (Director- CG, 82nd Airborne Division). Focused on institutional, operational, and self-developmental training and standardization to prepare Soldiers, U.S. Army civilians, leaders, and organizations to conduct unified land operations; provides common knowledge and skills at the individual level required to perform military duties or activities.
- (5) **Personnel and Leadership** (Director- Commandant, Infantry School). Focused on actions that promote readiness, leader development, and sustainment for the well-being of the force to include recruiting, MOS training, retention, assignment, promotion and benefits as they pertain to conventional airborne forces.
- (6) Materiel Development (Director- CG, 3rd Expeditionary Sustainment Command). Focused on all actions that promote equipment and weapon technology, acquisition support, logistics power projection, and coordination for research and development as it pertains to conventional airborne forces.
- (7) **Aerial Delivery** (Director- Commandant, Quartermaster School). Focused at prepotency functions related to aerial delivery, doctrine, airdrop operations, sling load operations, and rigger training and force structure.

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• Appendix M. MOLLE 4K I-HSPR Ground Configuration Procedures

PROCEDURES FOR ASSEMBLING THE INTEGRATED HARNESS, SINGLE POINT RELEASE (I-HSPR)

- 1. Disassembly and preparation of the I-HSPR.
 - a. Remove the pack frame from the pack body by releasing the hook and pile tape on the pack frame retainer strap and completely remove it from the pack frame (see Figure 1)



Figure 1 - Pack frame retainer strap

b. Activate both shoulder carrying strap quick release buckles and separate the frame from the pack body by pulling the shoulder carrying straps through the cutaways located at the top of the back pad (see Figures 2 and 3).



Figure 2



Figure 3

c. Remove all air items from the air item stowage pocket and lay the I-HSPR alongside the MOLLE 4K pack body.



Figure 4 - Correct Placement of I-HSPR

- 2. Installing the I-HSPR. (Do not incorporate any twists in the nylon portions of the I-HSPR while installing it)
 - a. Lay the I-HSPR on top of the air item stowage pocket as shown in Figure 4.
 - b. Route both equipment retainer straps with the friction adapter, friction adapter protective cover, and male portion leg strap release assembly through the cutaway on the air item stowage pocket (see Figure 5, 6, and 7). Continue to route it through the corresponding nylon equipment hanger, then align and secure the hook and pile tape to each other. Repeat this process on the opposite side. Once both equipment retainer straps are properly routed, cross them and form an X configuration (see Figure 8).



Figure 5 Routing friction adapter



Figure 6 Placement of attaching loops



Figure 7 Opposite view



Figure 8 - Forming the X-configuration

- c. After you have formed the X configuration continue to route the friction adapters and friction adapter protective covers through the slots at the top of the back pad. Do not route the male portion leg strap release assemblies through the slots. Continue to pull the friction adapters through until the male portion leg strap release assemblies are aligned with their corresponding nylon equipment channels sewn to the pack body.
- d. Route each male portion leg strap release assembly through their corresponding nylon equipment channel. There are two nylon equipment channels on either side, it is most convenient to use the lower channel, although either one will do. Roll the excess of each and stow them in the adjustable leg strap stowage pocket on each side of the pack body.



Figure 9

Figure 10



e. Route the friction adapters and friction adapter protective covers under the carrying handle, then through the channel that is the friction adapter stowage pocket. To do so, rotate the friction adapters 90 degrees (see Figure 12). Ensure you route the friction adapters under the webbing sewn at the entrance points (see Figure 13). Secure the friction adapters and friction adapter protective covers inside the friction adapter stowage pockets. (see Figure 14).



Figure 12

Figure 13



Figure 14

- f. Secure all air items inside the air item stowage pocket and zip it closed.
- 3. Reinstall the pack frame.
 - a. Re-install the pack frame by routing the shoulder carrying straps back through the appropriate slots (see Figure 15). Ensure that you route the shoulder carrying straps underneath the carrying handle. Continue to pull the shoulder carrying straps up until the top of the pack frame is seated behind the back pad. Rotate each shoulder carrying strap back over the top of the carrying handle before securing their quick release buckles (see Figures 16).



Figure 15



Figure 16

b. Securing the pack frame. Route the pack frame retainer strap back through their original cutaways on the pack frame (see Figures 17 and 18). Secure the two ends together, remove all slack, and secure the hook and pile tape (see Figures 19 and 20).



Figure 17



Figure 18



Figure 19



Figure 20

The I-HSPR is now properly installed and the MOLLE 4K is in ground configuration. Ensure all free running ends of the compression straps and the sternum strap are properly secured by retainer bands, masking tape, or webbing retainer.



