

***THE UNITED STATES ARMY
ADVANCED AIRBORNE SCHOOL
82D AIRBORNE DIVISION***



***JUMPMASTER
STUDENT STUDY GUIDE***

JULY 2004

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***** THE SKY MORE THAN THE SEA, IS TERRIBLY UNFORGIVING OF EVEN THE SLIGHTEST MISTAKE. *****



To check the status of soldiers attending the course, dates for upcoming AMO Courses, Jumpmaster Courses, Jumpmaster Refresher Courses, or BAR go to www.Bragg.army.mil/AAS/

E-mail questions, comments, or concerns to the Instructors at: 82djumpmtrinst.Bragg.army.mil



The United States Army Advanced Airborne School is located at building A1917 on the corner of Taylor St and Spooner St for the Jumpmaster Course, Jumpmaster Refresher Course, and BAR. The phone numbers are 396-9023, 6581, or 2420. The AMO Course is located on Pope Air Force Base building W1335. Utilizing the Reilly Rd. gate turn left on Hurst Dr. then turn right when you see the Major General Strom Thurmond Strategic Deployment Facility. The phone numbers are 432-5601 or 5605.

SUBJECT: JUMPMASER COURSE TEST STANDARDS

1. **GENERAL:** The course examinations are designed to assess your comprehension of Jumpmaster doctrine and your ability to apply the principles taught to you through classroom instruction and practical exercise. This course will require strict attention to detail and additional hours of home study. The standards of the Jumpmaster course are high, as they should be, for being a Jumpmaster is a business of life and death. Only through hard work, extra effort and commitment to excellence will you master the course material. The training objectives listed below will aid you in your preparation towards successful completion of this course.

2. TESTED AREAS:

A. NOMENCLATURE EXAMINATION:

TASK – Correctly identify 18 of 25 items of nomenclature equipment.

CONDITIONS – In a classroom environment, given an answer sheet, pencil and a primary instructor.

STANDARD – Each student must be able to properly identify 18 of 25 random items of equipment, using proper nomenclature, to obtain a minimum score of 70%.

B. PRE-JUMP EXAMINATION:

TASK - Conduct pre-jump training.

CONDITIONS – In a controlled environment, given a pre-jump checklist and an instructor in a one - on - one situation.

STANDARD – In 30 minutes or less, each student must be able to give pre-jump training to an instructor by reciting the titles of the five points of performance, verbatim, recovery and turn-in of equipment, malfunctions, activation of the reserve parachute, towed parachutist procedures, entanglements, emergency landings, B-7 life preserver, night jumps, AWADS jumps and parachute landing falls without failing to discuss any major area. Students must also demonstrate all slips and turns and the two methods of recovery from the drag to obtain a minimum score of 70%.

C. WRITTEN EXAMINATION:

TASK – Obtain a 70% on the written examination.

CONDITIONS – In a classroom environment, given an answer sheet, a pencil and a test booklet.

STANDARD – Each student must be able to correctly answer 70% of the questions pertaining to all phases of an airborne operation and duties conducted by select personnel that support the mission.

D. PRACTICAL WORK IN THE AIRCRAFT:

TASK – Conduct practical work in the aircraft.

CONDITIONS – In a controlled environment, given an S-3 air briefing, sustained airborne training, student station time, an Air Force aircraft and a pre-designated drop zone.

STANDARD – Each student must perform all phases of duties of the Jumpmaster, to include location of reference points and safely conduct an Airborne Operation in accordance with the 82D Airborne Division ASOP. Students must obtain a minimum score of 70%.

E. JMPI EXAMINATION:

TASK – Conduct JMPI on 3 jumpers.

CONDITIONS – In a controlled environment, given 3 jumpers wearing the following equipment: (Depending on the exam the jumpers will be placed in a different order.)

- 1) T-10D Main Parachute and the Modified Improved Reserve Parachute System and a Ballistic Helmet.
- 2) T-10D Main Parachute and the Modified Improved Reserve Parachute System and a Ballistic Helmet.
- 3) T-10D Main Parachute and the Modified Improved Reserve Parachute System, Ballistic Helmet, M1950 Weapons Case, ALICE pack rigged with a Harness Single Point Release and a Hook Pile Tape Lowering Line, rigged to be jumped and lowered as a tandem load.

STANDARD – Each student must inspect all 3 jumpers utilizing the proper sequence, identifying and calling off any deficiencies they may find, or create, using proper nomenclature, within 5 minutes to obtain a minimum score of 70%.

SUBJECT: Sustained Airborne Training

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapter 13

1. The Five Points of Performance:

a. The first thing I'll discuss are the five points of performance. The first point of performance is "**PROPER EXIT, CHECK BODY POSITION, AND COUNT.**" Keep your eyes open, chin on your chest, elbows tight into your sides, hands over the ends of your reserve parachute with your fingers spread. Bend slightly forward at the waist. Keep your feet and knees together with your knees locked to the rear. Count to four thousand. At the end of your four thousand count, if you feel no opening shock, immediately activate your reserve parachute.

b. The second point of performance is "**CHECK CANOPY AND IMMEDIATELY GAIN CANOPY CONTROL.**" To gain canopy control of the MC1-1D parachute, you will reach up and secure both toggles and pull them down to eye level, simultaneously making a 360-degree check of your canopy. To gain canopy control of the T-10D parachute, reach up and secure all four risers and simultaneously make a 360 degree check of your canopy.

c. You will then go into the third point of performance, which is, "**KEEP A SHARP LOOKOUT FOR ALL JUMPERS DURING YOUR ENTIRE DESCENT.**" Remember the three rules of the air: **Always look before you turn, always turn right to avoid collisions, and the lower jumper has the right of way.** Avoid all jumpers all the way to the ground. Maintain at least a fifty-foot separation. At the end of your third point of performance, release all appropriate equipment tie downs.

d. The fourth point of performance is "**SLIP/TURN INTO THE WIND AND PREPARE TO LAND.**" At approximately 200 feet above ground level you will look below you to ensure there are no fellow jumpers and then lower your equipment. When jumping the MC1-1D parachute, you will turn into the wind at approximately 200 feet above ground level. If the wind is blowing from your right to your left, you will pull down on your right toggle and lock your elbow. Once you are facing into the wind let up slowly to prevent oscillation. If the wind is blowing from your left to your right, you will pull down on your left toggle and lock your elbow. Once you are facing into the wind let up slowly to prevent oscillation. If the wind is blowing from your rear to your front, you will pull down on either toggle and lock your elbow. Once you are facing into the wind let up slowly to prevent oscillation. If the wind is blowing from your front to your rear, you will make minor corrections to remain facing into the wind. When jumping the T-10D parachute, you will slip into the wind at approximately 100 feet above ground level. If the wind is blowing from your left to your right, you will reach up high on your left risers and pull them down into your chest and hold them until you land. If the wind is blowing from your right to your left, you will reach up high on your right risers and pull them down into your chest and hold them until you land. If the wind is blowing from your rear to your front, you will reach up high on your rear risers and pull them down into your chest and hold them until you land. If the wind is blowing from your front to your rear, you will reach up high on your front risers and pull them down into your chest and hold them until you land. After you have slipped or turned into the wind, you will assume a prepare to land attitude by keeping your feet and knees together, knees slightly bent, elbows tight into your sides, chin on your chest and your eyes open.

e. The fifth point of performance is “**LAND.**” Make a parachute-landing fall by hitting all five points of contact: balls of feet, calf, thigh, buttocks, and the push-up muscle. Never make a standing landing. Remain on the ground and activate one of the canopy release assemblies by using one of the **two methods of recovery from the drag**. They are the “**Hand to Shoulder Method**” and the “**Hand Assist Method.**” The “Hand Assist Method” being the most preferred. With the thumb and index finger of one hand, pull out and down on the safety clip. Form a fist with the thumb exposed and then insert your thumb into the cable loop. Turn your head in the opposite direction. Then assisting with the other hand, pull out and down on the cable loop, simultaneously sounding off with “Riser.” At this time you will place your weapon into operation and remove the parachute harness.

2. Recovery and Turn-in of Equipment. Once you are out of the parachute harness, remove all air items from the D-rings. Unsnap and unzip the aviator’s kit bag and roll it two thirds of the way down. Place the parachute harness inside the aviator’s kit bag, with the smooth side facing up, leaving the waistband exposed. Recover the riser you just released and place it under the parachute harness. Elongate the suspension lines and canopy, removing all debris. Once you reach the apex of the canopy, insert your thumb into the bridle loop and figure eight roll your canopy and suspension lines all the way to the aviator’s kit bag. Place the canopy and suspension lines in the aviator’s kit bag leaving 6 to 8 inches of canopy exposed, to include the bridle loop. Route the waistband through the bridle loop; then snap, do not zip, the aviator’s kit bag. You will then secure all equipment, conduct a 360-degree check of your area, locate the nearest turn-in point, and move out to it.

3. Malfunctions. There are two types of malfunctions, a **complete malfunction** and a **partial malfunction**. A complete malfunction provides you no lift capability; therefore you must activate your reserve parachute. There are several types of partial malfunctions and actions for each. If you have a semi-inversion, squid, cigarette roll or a complete inversion with damage to the canopy or suspension lines, you must activate your reserve parachute. If you have a complete inversion with no damage to the canopy or suspension lines, do not activate your reserve parachute. If you have damaged suspension lines, blown section or gore, you must compare your rate of descent with your fellow jumpers. If you are falling faster than your fellow jumpers, you will activate your reserve parachute. If you are not falling faster, maintain what you have.

4. Activation of the Reserve Parachute.

a. When jumping the soft loop center pull MIRPS you will activate the SLCP MIRPS utilizing the pull drop method. Maintain a good tight body position. With either hand grasp the ripcord grip. Turn your head in either direction. Pull up on the ripcord grip and drop it. Your reserve parachute will activate. Ensure neither hand is in front of the reserve parachute as it deploys.

b. To activate your reserve parachute for a malfunction, you will utilize the “**Pull Drop Method.**” Maintain a good tight body position. Grasp the left carrying handle with your left hand; with your right hand, grasp the ripcord grip. Turn your head in either direction. Pull out on the ripcord grip and drop it. Your reserve parachute will activate.

c. In the event your Reserve Parachute does not activate, maintain a good tight body position, grasp the left carrying handle with your left hand, with your right hand sweep the Rip Cord Protector Flap up and away ensuring your hand does not stay in front of the Reserve Parachute.

5. Towed Parachutist.

a. If you become a towed parachutist, and you are being towed by your universal static line, and you are unconscious, you will be retrieved back inside the aircraft. If you are conscious, maintain a good tight body position. Place your right hand over the ripcord protector flap with your right forearm protecting the ripcord grip. When jumping the soft loop center pull MIRPS you will place either hand on the ripcord protector flap fingers pointed downward. An attempt will be made to retrieve you. If you cannot be retrieved, your universal static line will be cut. As soon as you feel yourself falling free from the aircraft, activate your reserve parachute utilizing the **Pull Drop Method**.

b. If you become a towed parachutist and you are being towed by any item of equipment, whether you are conscious or unconscious, that item of equipment will be cut immediately and your main parachute will deploy.

6. Entanglements. There are two types of entanglements: **High altitude and Mid altitude.**

a. If you see you are going to become entangled with another jumper, immediately slip or turn away. If you cannot slip or turn away, immediately assume a spread eagle position and try to bounce off the fellow jumper's canopy or suspension lines. If you do become entangled, snap into a modified position of attention. Place your right hand over the ripcord protector flap, with your right forearm protecting the ripcord grip. With your left hand, attempt to weave your way out of the suspension lines the same way you entered. When jumping the soft loop center pull MIRPS you will place either hand on the ripcord protector flap fingers pointed downward. With the opposite hand attempt to weave your way out of the suspension lines the same way you entered.

b. If you become hopelessly entangled, and you are jumping the T-10D main parachute, the higher jumper will use the hand under hand method to climb down to the lower jumper. Once they are even, both jumpers will grasp each other's main lift web and decide what type of parachute landing fall they will make. Both jumpers will fall in the same direction. You will not do a front parachute-landing fall. Both jumpers will observe both canopies. If one canopy collapses, both jumpers will ride the one good canopy to the ground. One T-10D parachute can sustain both jumpers. If both canopies collapse, both jumpers will immediately push or turn away, creating a clear unobstructed path, and then activate their reserve parachute utilizing the **Pull Drop Method**.

c. If you are jumping the MC1-1D parachute, and you become hopelessly entangled, both jumpers will stay where they are, ensure they have a clear unobstructed path, then immediately activate their reserve parachute utilizing the **Pull Drop Method**.

7. Emergency Landings.

There are three types of emergency landings: **Tree Landing, Wire Landing and Water Landing**. The first one I'll discuss is:

a. **Tree Landing.** If you see yourself drifting towards a body of trees, immediately try to slip or turn away. If you cannot slip or turn away and your equipment has already been lowered, look below you to ensure there are no fellow jumpers below you and jettison your equipment, making a mental note of where it lands. If your equipment has not already been lowered, keep it on you to provide additional protection as you pass through the trees. Assume a good prepare to land attitude by keeping your feet and knees together, knees slightly bent, chin on your chest, eyes open, and your hands in front of your face with your elbows high. Be prepared to do a PLF in the event 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 ballistic helmet. Activate the quick release in the waistband then activate the chest strap ejector snap. Place your left hand over the ripcord protector flap and apply slight pressure. Ensure you have a clear and unobstructed path then activate the reserve parachute and lower it to the ground. Undo the left connector snap and rotate the reserve parachute to the right. Seat yourself well into the saddle. Activate the leg strap ejector snaps and climb down the outside of the reserve parachute. When in doubt, stay where you are and wait for assistance.

b. **Wire Landing.** If you are drifting towards wires, immediately try to slip or turn away. If you cannot slip or turn away, look below you to ensure there are no fellow jumpers below you and jettison your equipment, making a mental note of where it lands. Assume a prepare to land attitude by keeping your feet and knees together, exaggerating the bend in your knees, eyes open, chin on chest, and arch your back. Place the palms of your hands high on the inside of the front set of risers. When you make contact with the wires, begin a hard rocking motion and attempt to pass through the wires. Be prepared to do a PLF 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.

c. **Water Landing.** If you are drifting towards a body of water, immediately try to slip or turn away. If you cannot slip or turn away, look below you to ensure there are no fellow jumpers below you, and lower your equipment. You will also jettison your ballistic helmet, making a mental note of where it lands. Activate the quick release in your waistband, unsnap the left connector snap and rotate the reserve parachute to the right. Activate the chest strap ejector snap and immediately regain canopy control. Prior to entering the water, assume a prepare to land attitude by keeping your feet and knees together, knees slightly bent, eyes open, chin on your chest, and both hands on the leg strap ejector snaps. Upon making contact with the water, activate the leg strap ejector snaps, then throw your arms up and attempt to slide out of the parachute harness. Once in the water, you will swim upstream or upwind away from the canopy. Be prepared to do a PLF in the event the water is shallow.

8. **B-7 Life Preserver.** When jumping the B-7 life preserver, you will activate the B-7 life preserver while still in the air. You will not jettison any of your equipment. Look below you to ensure there are no fellow jumpers below you and lower your equipment. Assume a prepare to land attitude and be prepared to do a PLF in the event the water is shallow. Once in the water, activate one canopy release assembly by using one of the two methods of recovery from the drag previously described.

9. **Night Jump.** When jumping at night, always give your canopy an extra look. Maintain noise discipline and a good interval between fellow jumpers. Be prepared to do a PLF because you will hit the ground approximately 5 to 10 seconds before you think you will.

10. **AWADS.** When jumping under AWADS conditions, do not lower your equipment until you have cleared through the clouds. Do not slip or turn unless you have to do so to avoid a collision. If you have any kind of malfunction, immediately activate your reserve parachute because you cannot compare your rate of descent with that of fellow jumpers.

11. **Parachute Landing Falls.** At this time we will move to the parachute landing fall platform and execute one satisfactory parachute-landing fall in each of the four directions. Remember to expose the lower three points of contact for the modified parachute-landing fall.

SUBJECT: Duties of the Jumpmaster Team

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapters 4, 12, 13, 14, and 18.

A. Jumpmaster Team Qualifications.

1. Primary Jumpmaster:
 - a. Graduate of the 82D ABN DIV Jumpmaster Course.
 - b. Graduate of another recognized Jumpmaster Course and successful completion of the 82D ABN DIV Jumpmaster Refresher Course.
 - c. SGT or above. If a SGT, must be advanced rated.
2. Assistant Jumpmaster:
 - a. Same as the Primary Jumpmaster.
 - b. CPL or above.
 - c. Must safety once before performing Assistant Jumpmaster duties.
3. Safety:
 - a. Graduate of the 82D ABN DIV Jumpmaster Course.
 - b. Graduate of another recognized Jumpmaster Course and successful completion of the 82D ABN DIV Jumpmaster Refresher Course.
 - c. CPL or above.
4. Currency:
 - a. **New graduates** from the 82D ABN DIV Jumpmaster Course must safety once and assist once. To perform as the Primary Jumpmaster new graduates must safety twice and assist twice regardless of their rating. **Jumpmaster Refresher graduates** must safety once and assists once within 180 days to become current. To perform as the Primary Jumpmaster you must assists twice and safety twice regardless of their rating.

*****Duties of the Jumpmaster Team begin Immediately Upon Notification*****

B. Jumpmaster Team Duties.

Jumpmaster Duties (3 Areas)

1. Unit Area
2. Departure Airfield
3. During Flight

Safety Duties (4 Areas)

1. Unit Area
2. Departure Airfield
3. During Flight
4. After Flight

*****The Jumpmaster can delegate AUTHORITY but not RESPONSIBILITY*****

C. Duties in the Unit Area

1. S-3 Air Briefing:

- a. Must be attended by the entire JM Team and the Airborne Commander or their representative and any involved commanders.
- b. The JM Team should receive a JM Packet at the briefing. The JM Packet is a unit expansion of the air letter.
- c. All critical times, equipment, JM Team and all support taskings must be verified.
- d. Manifest personnel under the guidance of the Airborne Commander. The Airborne Commander is responsible for the Tactical Cross Load Plan.

2. JM Team Rehearsal: (NLT ST – 3:15)

A rehearsal with the JM Team will be conducted prior to manifest call. This allows you to verify competence of everyone on the team and rehearse your actions inside the aircraft. (Discuss Towed Jumper, Red / Amber Light Exits, A – Series Containers, etc.)

3. Manifest Call: (NLT ST – 3:00)

- a. Jumpmaster
 1. Verify manifest
 2. Align personnel in chalk order (IAW Airborne Commander tactical crossload)
 3. Number jumpers for easy identification
 4. Mark the following personnel with colored tape on the upper right arm:

JM Team	Red
Key Leaders	Green
Current JMs	Yellow
Bump Personnel (Will not Jump)	White
Medics	Red Cross Brassard

- b. Safety:
 1. Inspect jumper's ballistic helmets / advanced combat helmets, I.D. cards, and I. D. tags
 2. Assist the JMs

4. Sustained Airborne Training/Prejump: (NLT ST – 2:45)

- a. Jumpmaster:
 1. Conduct sustained airborne training IAW the 82D ABN DIV ASOP, Chapter 13.
 2. Mock door training can be conducted in the unit area as long as proper training aids are available.

b. Safety:

1. Inspect all equipment for proper rigging IAW the 82D ABN DIV ASOP, Chapters 9 and 10.
2. Make 7 complete copies of the manifest.
3. Assist the JMs.

D. Duties at the Departure Airfield

1. Mock door training: **(NLT ST – 1:30)**

a. Jumpmaster:

1. Rehearse proper loading of aircraft.
2. Ensure ALL personnel are present to include safties and key leaders.
3. Discuss **SARJE**: Static line control, **A**ctivation of reserve parachute inside the aircraft, **R**ed / Amber light procedures, **J**ump refusal, **E**xiting procedures.
4. Discuss order of exit for multiple passes.
5. Ensure jumper adherence to airborne procedures. (Securing the appropriate adjustable leg strap(s), Passing of universal static lines, proper exit, etc.)
6. Rehearse exiting A-Series Containers / Special Items of equipment. (When applicable)

b. Safety:

1. Aggressively Enforce Standards.
2. Make on the spot corrections during mock door training.
3. Assist the JMs.

c. A member of the JM Team will report to the DACO, to verify information pertaining to the airborne operation, i.e. serious incident brief and sign roster, parking of aircraft, weather, policing of area, parachute issue, etc.

d. The seven copies of the manifest are distributed to the following personnel:

Primary Jumpmaster
NCOIC of Parachute issue
Unit File (S-3 Air)
A/DACG
DACO
Airforce guide
Loadmaster

The JM must ensure that 4 of the 7 copies of the manifest get turned into the A/DACG. The A/DACG will distribute these 4 copies of the manifest to the following personnel:

A/DACG
DACO
Airforce guide
Loadmaster

2. Parachute Issue: **(NLT ST – 1:15)**

a. Jumpmasters will ensure they draw 2 Rip Cord Grip Inserts 1 for the Primary Jumpmaster and 1 for the Assistant Jumpmaster regardless of type of aircraft. (If exiting A – series containers the # 1 jumper will also have a Rip Cord Grip Insert.)

b. Jumpmaster:

1. Supervise issuing of the parachutes.

c. Safety:

1. Ensure adequate expendable items are available.
2. At a minimum, draw 2 extra reserve parachutes per aircraft, and 1 aviator's kit bag, for every 15 jumpers, for deployment bags.
3. Assist the JMs.

d. Parachute Issue is conducted in one of the following 3 areas:

Pax Shed Issue
Ramp Side
Plane Side

3. Donning of Parachutes: **(NLT ST – 1:00)**

a. Jumpmaster:

1. Supervise all rigging.
2. Ensure that jumpers are utilizing the Buddy System IAW the 82D ABN DIV ASOP, Chapter 13. **(Do not pre-route the LCE)**
3. Ensure that the Riggers are on site.

b. Safety:

1. The aircraft may be available for inspection at this time. If it is, conduct inspection of the aircraft IAW the 82D ABN DIV ASOP, Chapter 13 and/or the GTA Card.
2. Assist the JMs.

4. JMPI: **(NLT ST -: 50)**

a. Jumpmaster:

1. PJM should supervise all JMs conducting JMPI. The PJM should conduct JMPI only if necessary to meet Station time.
2. Establish a minimum of 4 JMPI stations and 1 correction station.
3. The JM at the correction station must be JM qualified, but does not have to be current.
4. Ensure everyone is JMPI'd prior to Station time, to include the JMs.

b. Safety:

1. Assist in JMPI.
2. Assist the JMs.

5. Load Time: **(NLT ST -: 15)**

a. Jumpmaster:

1. During loading, a member of the JM Team will be positioned at the ramp and observe every jumper to ensure their appropriate adjustable leg straps have been properly routed. Left door left leg free M1950 weapons case only, right door right leg free left leg only.
2. Conduct JM/Pilot brief IAW the 82D ABN DIV ASOP, Chapter 13 and / or the GTA Card.
3. Ensure loading is conducted properly, with the tactical cross load plan intact.
4. Ensure the Loadmaster conducts a safety briefing discussing emergency procedures.

b. Safety:

1. This is the latest time the aircraft inspection can be conducted.
3. Load and seat each jumper ensuring the appropriate adjustable leg straps are secured. Left door left leg free M1950 weapons case only, right door right leg free left leg only.
4. Assist the JMs.

6. Station Time: **(Normally 35 minutes prior to take off)**

a. Jumpmaster and Safety:

1. All jumpers have been JMPI'd to include the JM Team.
2. Jumpers seated and secured with seat belts.
3. Jumpers sleeves rolled down.
5. All jumpers are awake and alert.
6. Remove all armbands, ballistic helmet / advanced combat helmet markings as required by the mission.

Note: The Jumpmaster can allow the jumpers to leave their ballistic helmets / advanced combat helmets off until 5 minutes prior to take off.

E. Duties During Flight

3. Take off:
 - a. Jumpmaster and Safety:
 1. All jumpers must have their ballistic helmets / advanced combat helmets properly secured.
 2. All jumpers are awake and alert.
 3. Remain oriented at all times. (Receive the Air Route Diagram from the Air Force navigator during the Pilot / JM Briefing.)
3. 30 Minute Update: **(Tactical Operations Only)**
 - a. Safety:
 1. Brief updated information for the mission on the Aircraft intercom system.
 2. Pass out the information board if the Aircraft intercom system is not working or as required.
3. 20 Minute Time Warning:
 - a. Jumpmaster:
 1. Issue the 20 Minute Time Warning to the jumpers.
 2. Ensure everyone is awake and alert with ballistic helmets / advanced combat helmets secured.
 3. Supervise the Safety.
 - b. Safety:
 1. Attach and inspect all special items of equipment.
 2. Don your BA-18 parachute prior to the 10 Minute Time Warning.
 3. Assist the JMs.
 4. If exiting A-series containers:
 - Move the load near the paratroop door.
 - Inspect the load.
 - Remove the Load Data Card.
 - Hook up the universal static line to the outboard anchor line cable.

NOTE: Key Leaders can remain on the CECOMPS communications headset until the 10min time warning; RTO's will remain on them until the 3 min slowdown.

4. 10 Minute Time Warning:
 - a. Jumpmaster:
 1. Hook up to the Inboard anchor line cable.
 2. Issue jump commands.
 - b. Safety:
 1. Assist the JM in hooking up if required.
 2. Move to the forward portion of the aircraft to ensure all jumpers comply with jump commands.
 3. Correct any unsafe conditions.
5. 3 Minute Slowdown: (Paratroop doors open at 6 minutes out for the C-17 Globemaster III Only.)
 - a. Jumpmaster and Safety:
 1. Ensure all jumpers are either hooked up or seated.
 2. No unsafe conditions inside or outside the aircraft.
 3. JMs conduct proper jump platform and paratroop door check, conduct initial clear to the rear prior to 1 minute time warning.
6. 1 Minute Time Warning:
 - a. Jumpmaster:
 1. Identify 1 Minute reference point.
 2. Issue "1 Minute" to the jumpers.
 - b. Safety:
 1. Watching JM and jumpers for any unsafe conditions.
 2. Maintain control of JM's universal static line.
7. 30 Second Reference Point:
 - a. Jumpmaster:
 1. Identify 30-second reference point.
 2. Conduct final clear to the rear.
 3. Issue and receive "Thumbs up" to opposite paratroop door JM.
 4. Issue "Stand-by" to the jumpers.
 5. Bisect the lead edge of the paratroop door and regain universal static line control; ensure you do not block the paratroop door.

NOTE: Insure that the "AMBER JUMP CAUTION LIGHT" is illuminated prior to issuing the command of "STAND BY". (C-17 Globemaster III only)

- b. Safety:
 - 1. Return the universal static line to the JM.
 - 2. Bisect the trail edge of the paratroop door.

- 8. Green light:
 - a. Jumpmaster:
 - 1. PJM's #1 jumper exits on the command of "Go".
 - 2. AJM will issue the command of "Go" and tap the #1 jumper, ½ second after the #1 jumper on the PJM's paratroop door has exited the aircraft.
 - 3. When exiting mixed parachutes, there will be a 2 second interval in between all MC1-1D main parachute there will also be a 2 second interval between the last MC1-1D and the first T10-D main parachutes.
 - 4. The PJM / AJM will maintain control of the interval of jumpers to the paratroop door.
 - 5. AJM exits after the last jumper on their pass, or the last jumper on that paratroop door and check the jump caution light before exiting.
 - 6. PJM will exit after all jumpers, to include the AJM and check the jump caution light before exiting.

*****Jumpmaster Duties End Upon Exit from the Aircraft*****

- b. Safety:
 - 1. Control all universal static lines.
 - 2. Watch for any unsafe conditions.
 - 3. After the JM, or the last jumper of that pass exits, conduct a towed jumper check.
 - 4. Issue "Thumbs up" to the Safety on the opposite paratroop door, then turn the paratroop door over to the Loadmaster.
 - 5. Assist the Loadmaster in retrieving the deployment bags and recovery of the Aircraft.

F. Duties After Flight:

The Safety will perform the following duties:

- a. Roll deployment bags and place in aviator's kit bag.
- b. Recover all Army equipment and turn into the DACO or parent unit.
- c. Police the aircraft and return the seats to their normal configuration.
- d. Take all jump refusals, and non-jumpers, to the DACO.
- e. Note any violations or unsafe acts that occurred and relay them to the DACO.
- f. Report all alibi jumpers, short filled aircraft, activation of reserve parachutes and red / amber light exits, towed jumpers by Universal Static Line injury on a serious incident report to the DACO.

***** ALWAYS review the ASOP prior to assuming duties on the JM Team *****

SUBJECT: Nomenclature, Packing Procedures, and the Deployment Stages of the T-10D Main Parachute and the Modified Improved Reserve Parachute System

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapter 13 and Appendix E.

A. T-10D Main Parachute:

1. Description: Troop back, static line deployed.
 - Average rate of descent: Approximately 18 feet per second for a suspended weight of 250lbs.
 - Average deployment time: Approximately 3.2 seconds
 - Minimum safe drop speed: 50 knots
 - Maximum safe drop speed: 150 knots

2. Five Major Components:
 - Deployment Bag
 - Canopy Assembly
 - Riser Assembly
 - Harness Assembly
 - Pack Tray

B. Modified Improved Reserve Parachute System:

1. Description: Troop chest, emergency type parachute, which has been designed to be manually activated in the event the main parachute malfunctions.

2. Four Major Components:
 - Pilot Parachute with Deployment Assistance Device
 - Canopy Assembly
 - Pack Assembly
 - Rip Cord Assembly

C. Rip Cord Grip Insert:

1. Description: Constructed of hard plastic with a smooth side, a raised side, and slotted edges.
 - When exiting A-series containers ensure the number one jumper is Jumpmaster qualified, but not necessarily current, they also have a Rip Cord Grip Insert.

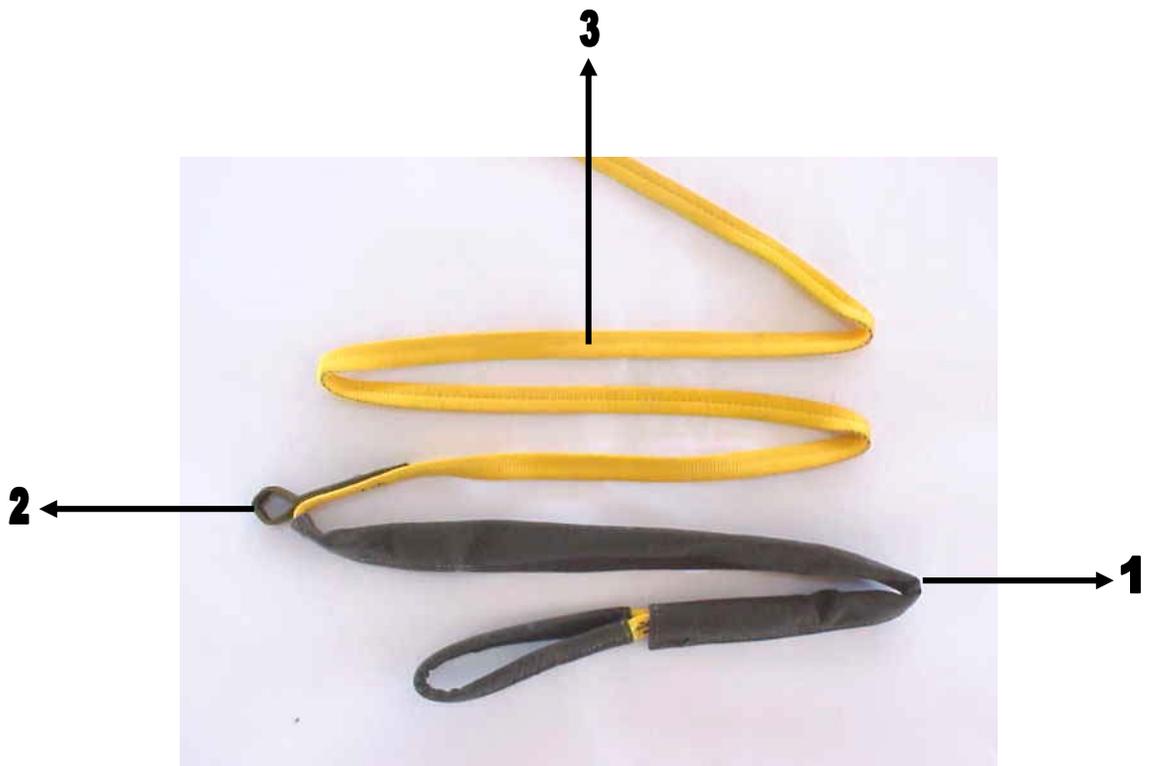
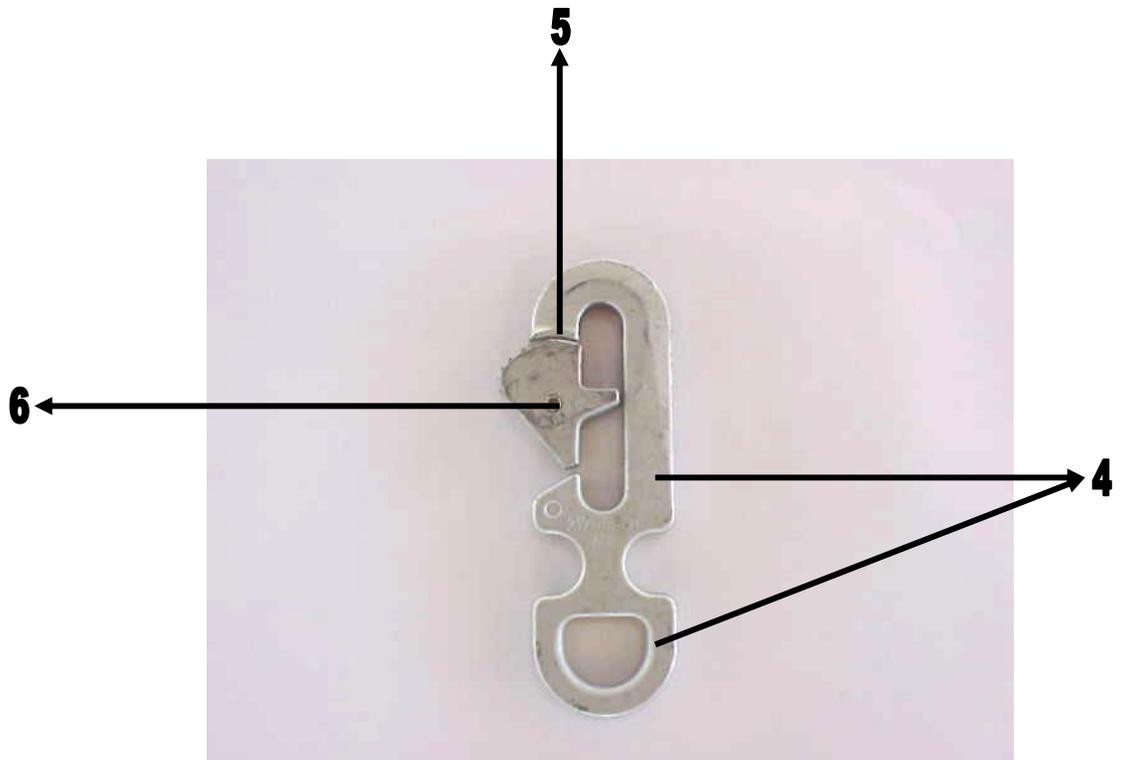
5 FOOT UNIVERSAL STATIC LINE EXTENSION

1. 5 FOOT UNIVERSAL STATIC LINE EXTENSION
2. COTTON BUFFER



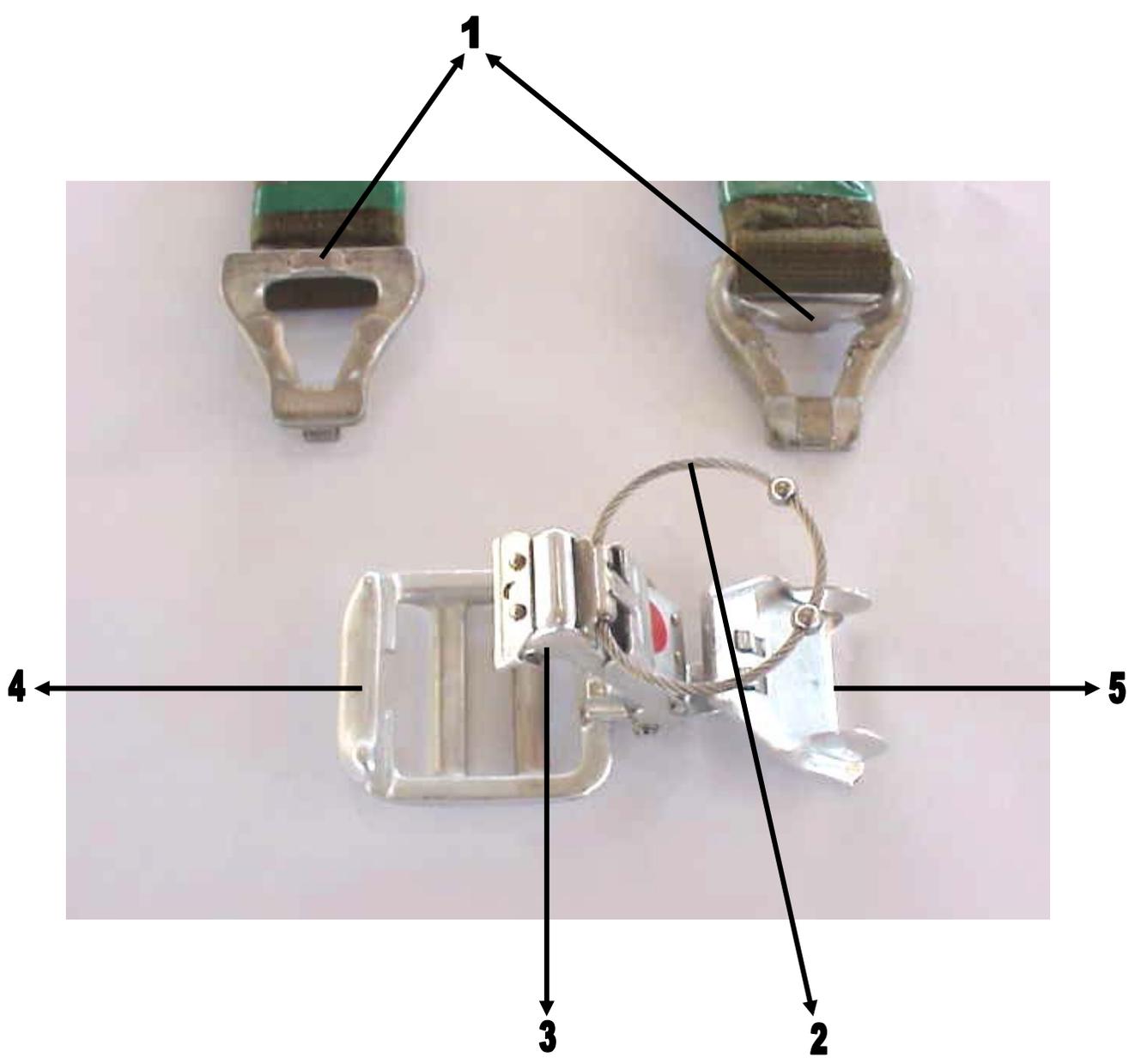
UNIVERSAL STATIC LINE

1. STATIC LINE SLEEVE
2. PACK OPENING LOOP
3. UNIVERSAL STATIC LINE
4. UNIVERSAL STATIC LINE SNAP HOOK
5. SPRING OPENING GATE
6. RIVET PIN



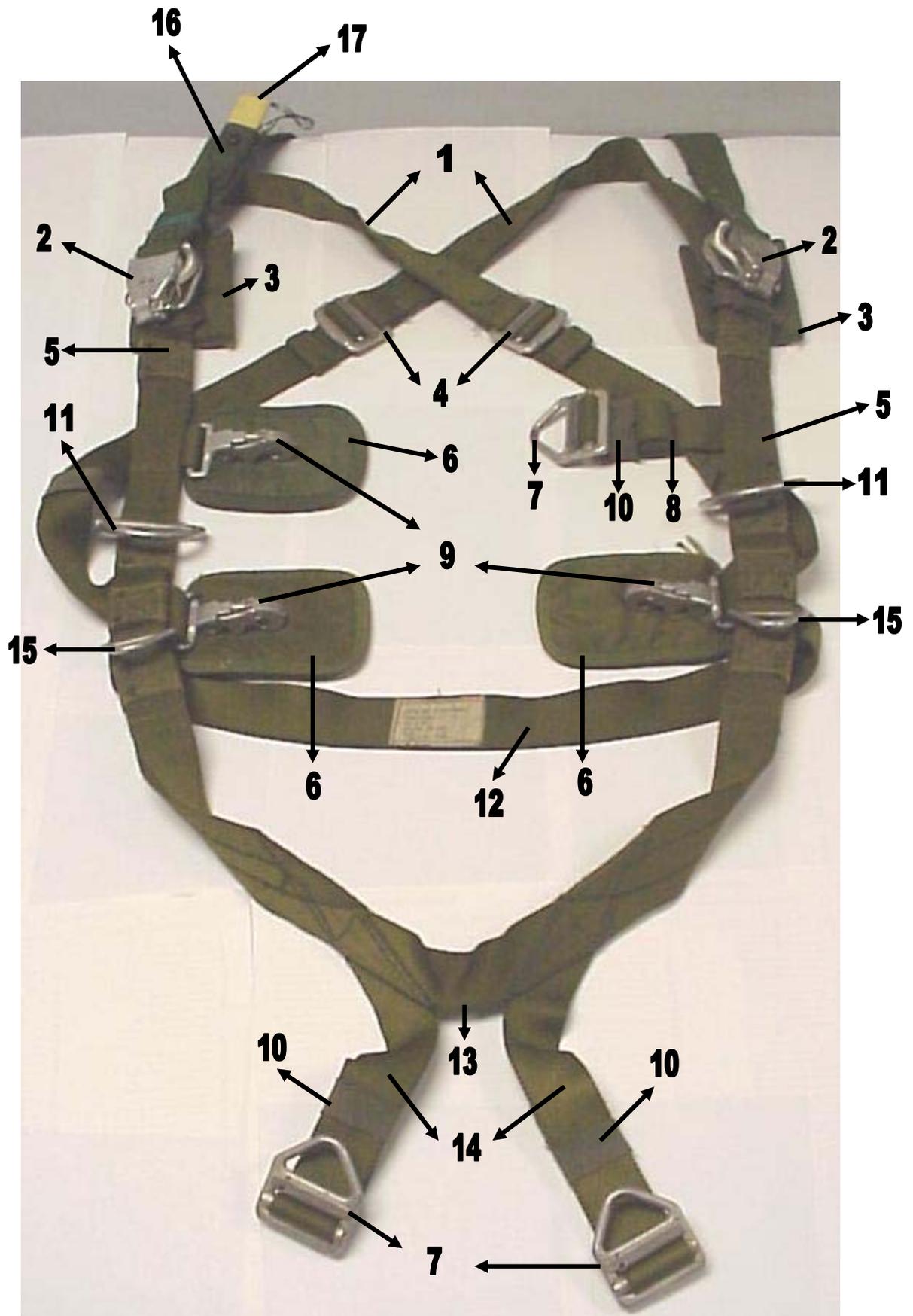
CANOPY RELEASE ASSEMBLY

1. MALE FITTING CANOPY RELEASE ASSEMBLY
2. CABLE LOOP
3. LATCH
4. FEMALE FITTING CANOPY RELEASE ASSEMBLY
5. SAFETY CLIP



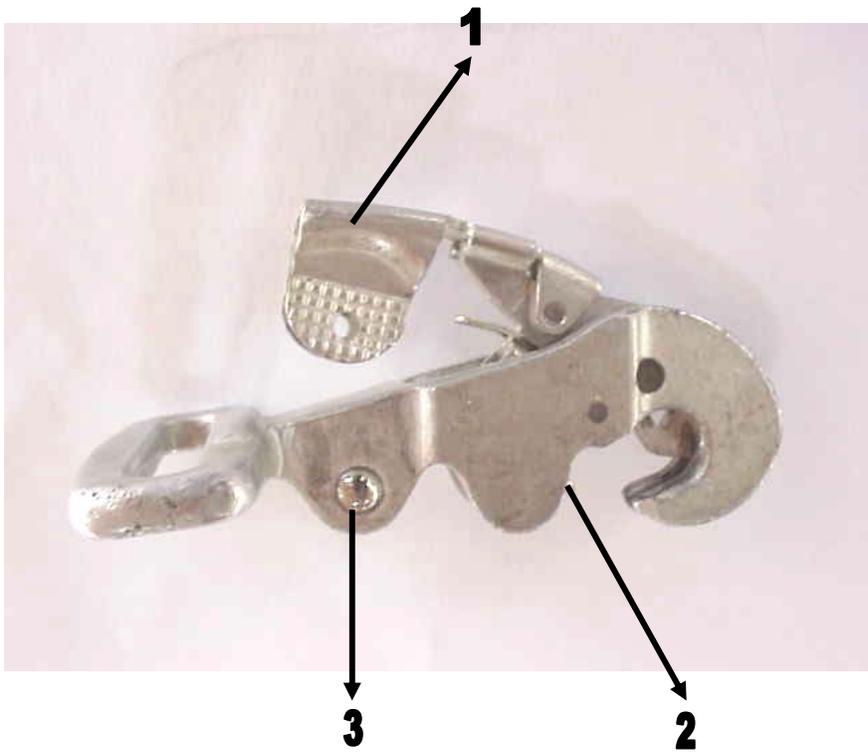
HARNESSE ASSEMBLY

1. DIAGONAL BACKSTRAP
2. CANOPY RELEASE ASSEMBLY
3. CANOPY RELEASE ASSEMBLY PAD
4. BACKSTRAP ADJUSTER
5. MAIN LIFT WEB
6. EJECTOR SNAP PAD
7. QUICK FIT "V" RING
8. CHEST STRAP
9. EJECTOR SNAP
10. WEBBING RETAINER
11. D – RING
12. HORIZONTAL BACKSTRAP
13. SADDLE
14. LEG STRAP
15. TRIANGLE LINK
16. LOG RECORD STOW POCKET
17. DA FORM 3912 OR ARMY PARACHUTE LOG RECORD



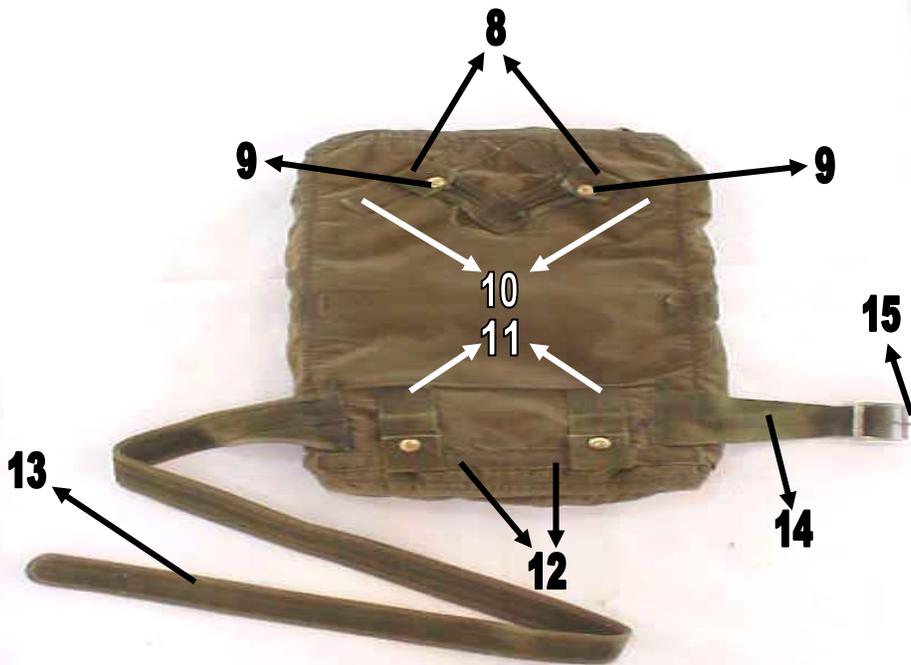
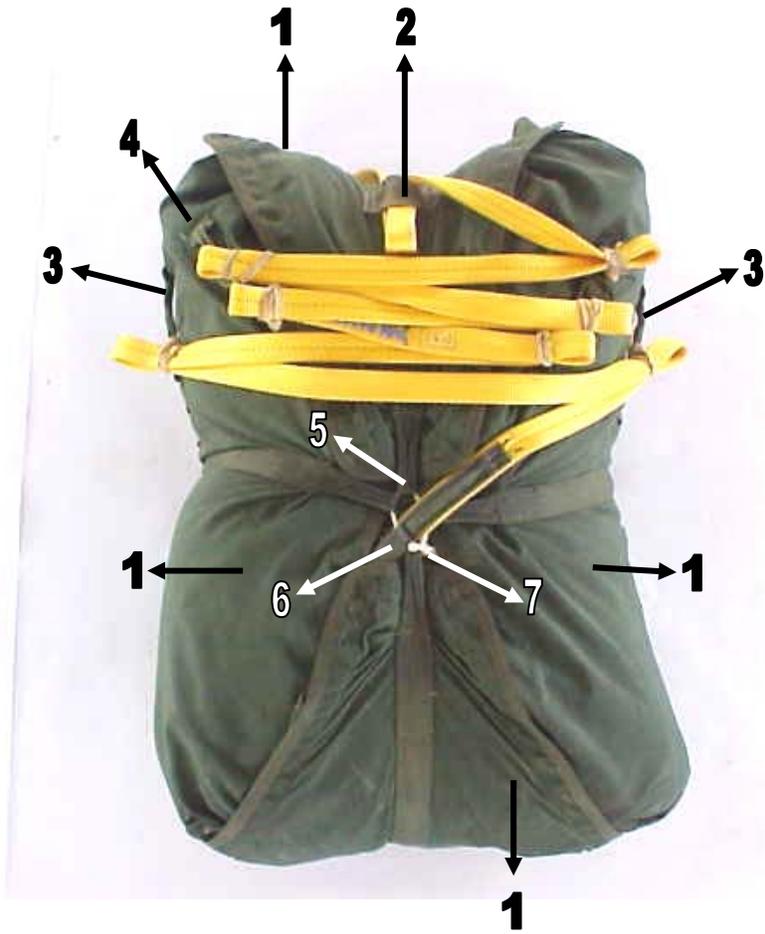
EJECTOR SNAP

1. ACTIVATING LEVER
2. OPENING GATE
3. BALL DETENT



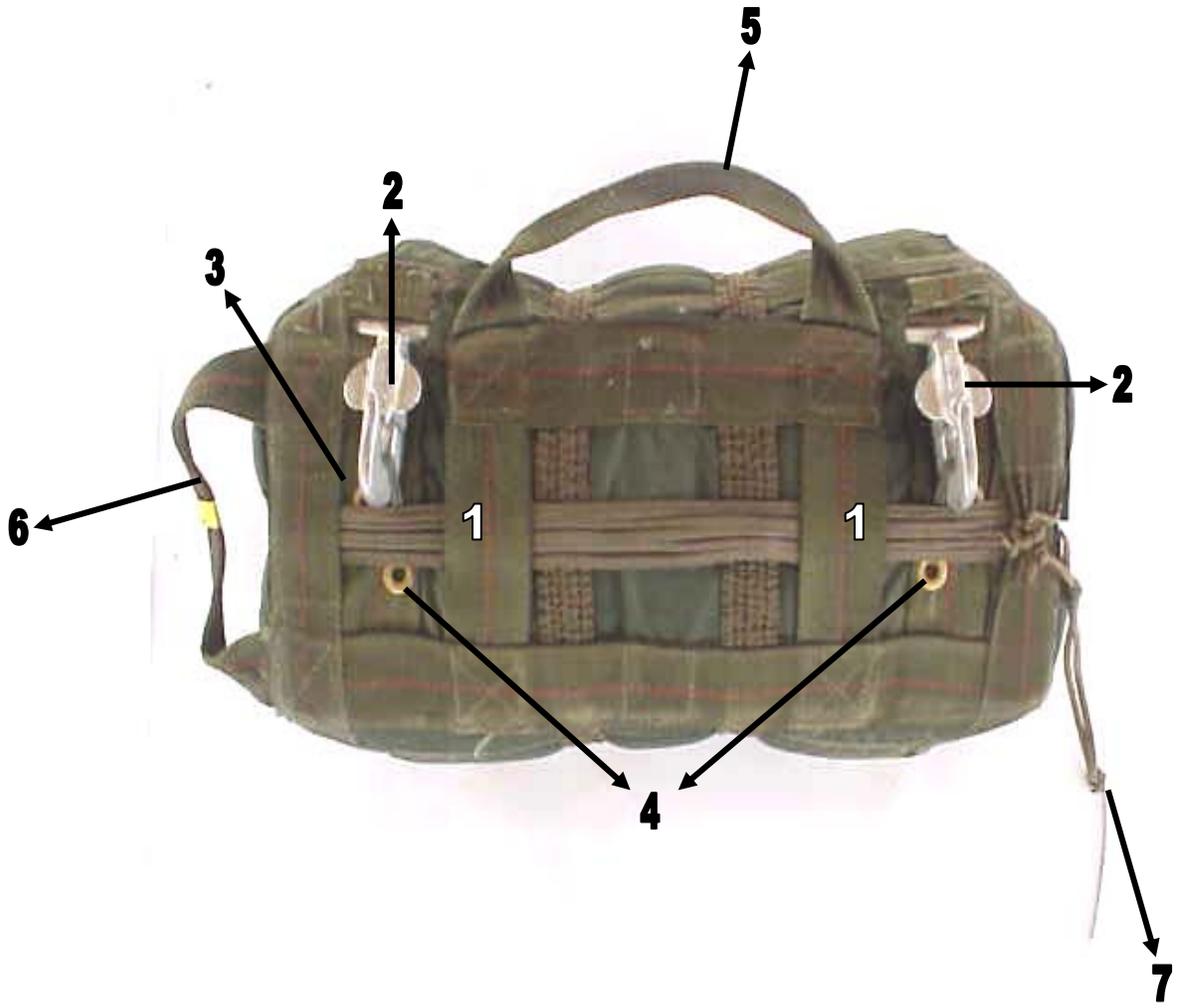
PACK TRAY

1. PACK CLOSING FLAP
2. STATIC LINE SLACK RETAINER
3. OUTER STATIC LINE STOW BAR
4. INNER STATIC LINE STOW BAR
5. PACK CLOSING LOOP
6. PACK OPENING LOOP
7. PACK CLOSING TIE
8. DIAGONAL BACKSTRAP RETAINER
9. PULL THE DOT FASTENER
10. DIAGONAL BACKSTRAP KEEPER
11. HORIZONTAL BACKSTRAP RETAINER
12. HORIZONTAL BACKSTRAP KEEPER
13. WAISTBAND
14. WAISTBAND ADJUSTER PANEL
15. METAL ADJUSTER



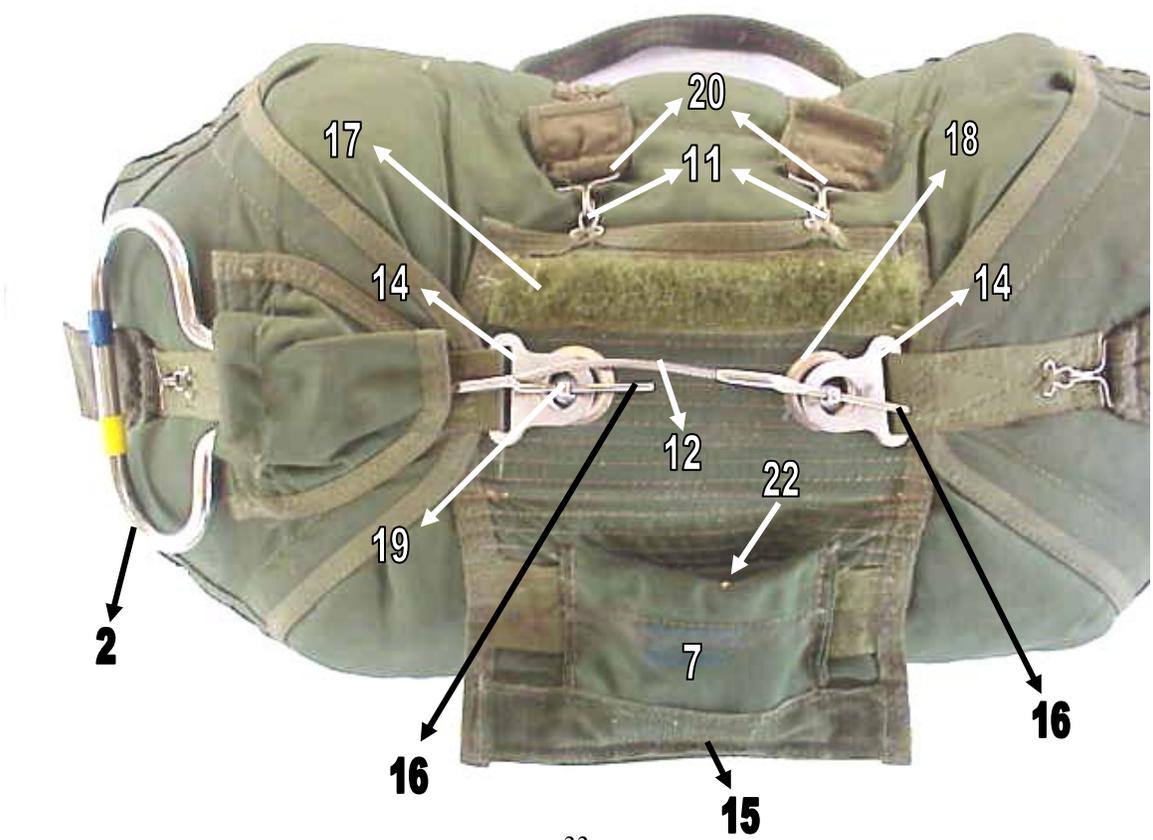
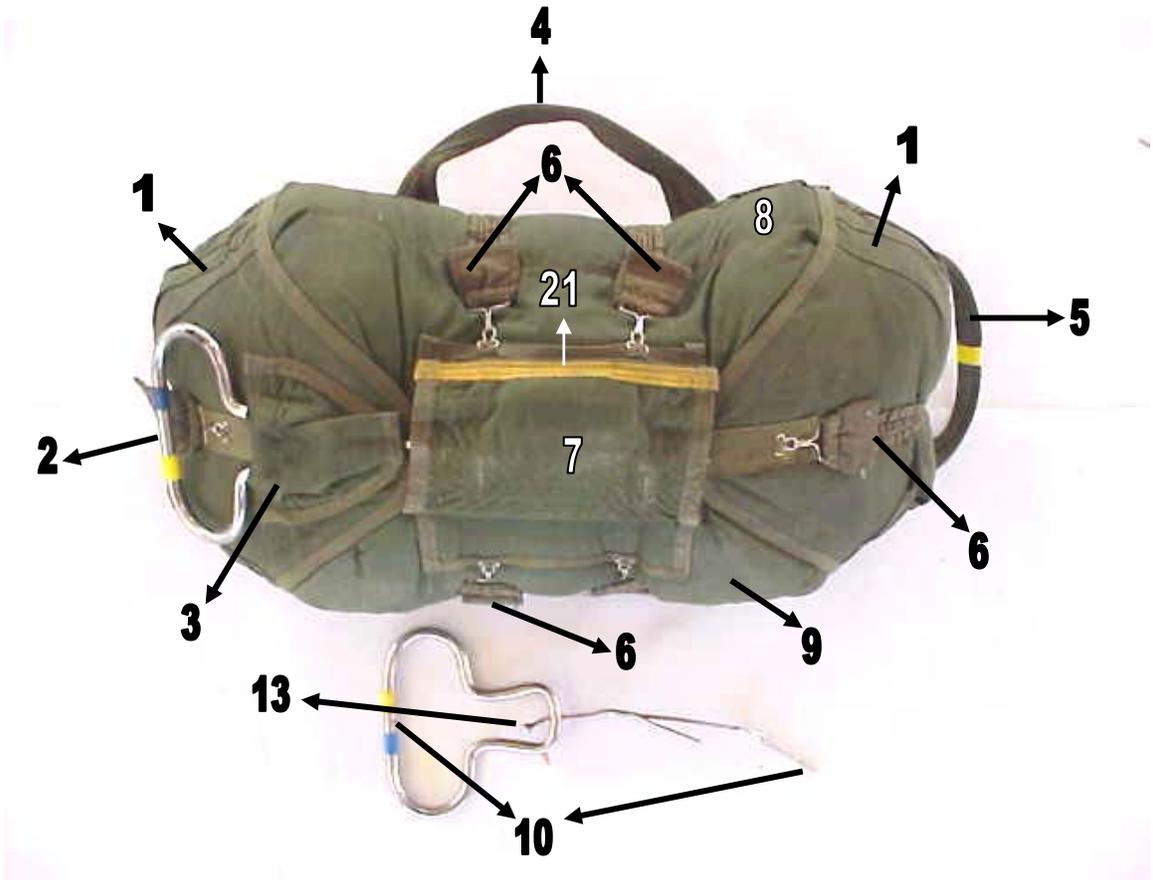
PACK ASSEMBLY (BACK)

1. WAISTBAND RETAINER
2. CONNECTOR SNAP
3. CONNECTOR SNAP TIE
4. CONNECTOR SNAP GROMMET
5. TOP CARRYING HANDLE
6. LEFT CARRYING HANDLE
7. SAFETY WIRE AND LANYARD



PACK ASSEMBLY (FRONT)

1. END PANEL
2. RIP CORD GRIP
3. RIP CORD GRIP STOW POCKET
4. TOP CARRYING HANDLE
5. LEFT CARRYING HANDLE
6. PACK OPENING SPRING BAND
7. RIP CORD PROTECTOR FLAP
8. TOP PANEL
9. BOTTOM PANEL
10. RIP CORD ASSEMBLY
11. EYELET
12. CABLE
13. STEEL SWAGED BALL
14. PACK FASTENER
15. HOOK TAPE
16. LOCKING PIN
17. PILE TAPE
18. GROMMET
19. CONE
20. HOOK
21. YELLOW BINDING TAPE
22. DA FORM 3912 OR ARMY PARACHUTE LOG RECORD



SUBJECT: Fitting and Wearing of the T-10D Main Parachute, the Modified Improved Reserve Parachute System and Rigging of Individual Items of Combat Equipment and the Buddy System.

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapters 9, 13

A. Ballistic Helmet:

1. Helmet Shell
2. Suspension Band with Drawstring and Adjustable Tab
3. Headband
4. Chinstrap
5. Parachutist Retention Strap
6. Foam Impact Pad
7. Modified Suspension Band with Drawstring and Adjustable Tab
8. Modified Headband
9. Modified Foam Impact Pad

B. Advanced Combat Helmet:

1. Oval Pad
2. Crown Pad
3. Trapezoid Pad
4. Adjustable Buckle
5. Adjustable Strap
6. Modified Chinstrap Assembly
7. Chin Strap Fastener
8. Long Portion Chin Strap
9. Short Portion Chin Strap
10. Webbing Retainer
11. Nape Pad
12. Hook Disk

C. Aviator's Kit Bag:

1. Cotton or nylon duck material, 2 carrying handles, 2 zippers and 7 snaps.
2. Zippers and snaps serviceable.
3. No large rips or tears.
4. Smooth side towards the jumper with the exposed carrying handle to the jumpers left.

D. M1950 Weapons Case:

1. 10 inches wide. May be adjusted from 50 ½ to 33 ½ inches in length.
2. 2 safety features: Tab thong secured and ½ hitch in adjusting strap.
3. Quick Release Snap
4. Will always be rigged to be jumped and lowered.
5. The M1950 Weapons Case **MUST** be lowered when:
 - a. It weighs 35 pounds or more.
 - b. It contains a crew served weapon.
 - c. It is a modified M1950 weapons case.
 - d. The JM deems it too big or bulky to land with safely.

E. Harness Single Point Release:

1. Two 102 inch Equipment Retainer Straps joined by the Adjustable Cross Strap and the Release Handle Cross Strap.
2. Three sets of color-coded attaching loops.
3. Three Friction Adapters.
4. Two Adjustable Leg Straps (Male Portion Leg Strap Release Assembly / Female Portion Leg Strap Release Assembly).
5. Two Adjustable D – Ring Attaching Straps (Snap Hook / Triangle Link).

F. All Purpose Lightweight Individual Carrying Equipment (ALICE Pack):

1. Three outer accessory pouches.
2. Two shoulder carrying straps.
3. Two shoulder carrying strap loops. (Medium ALICE Pack only)

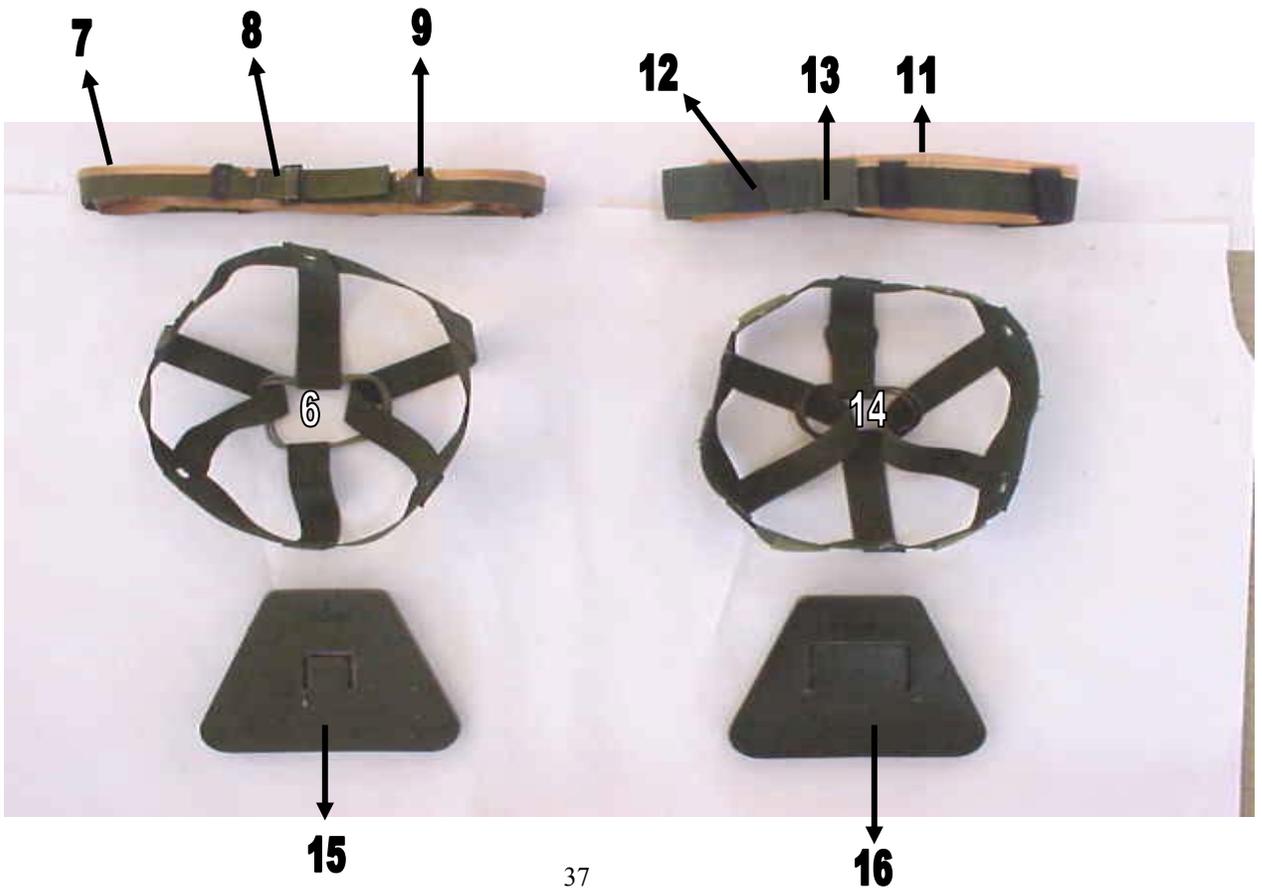
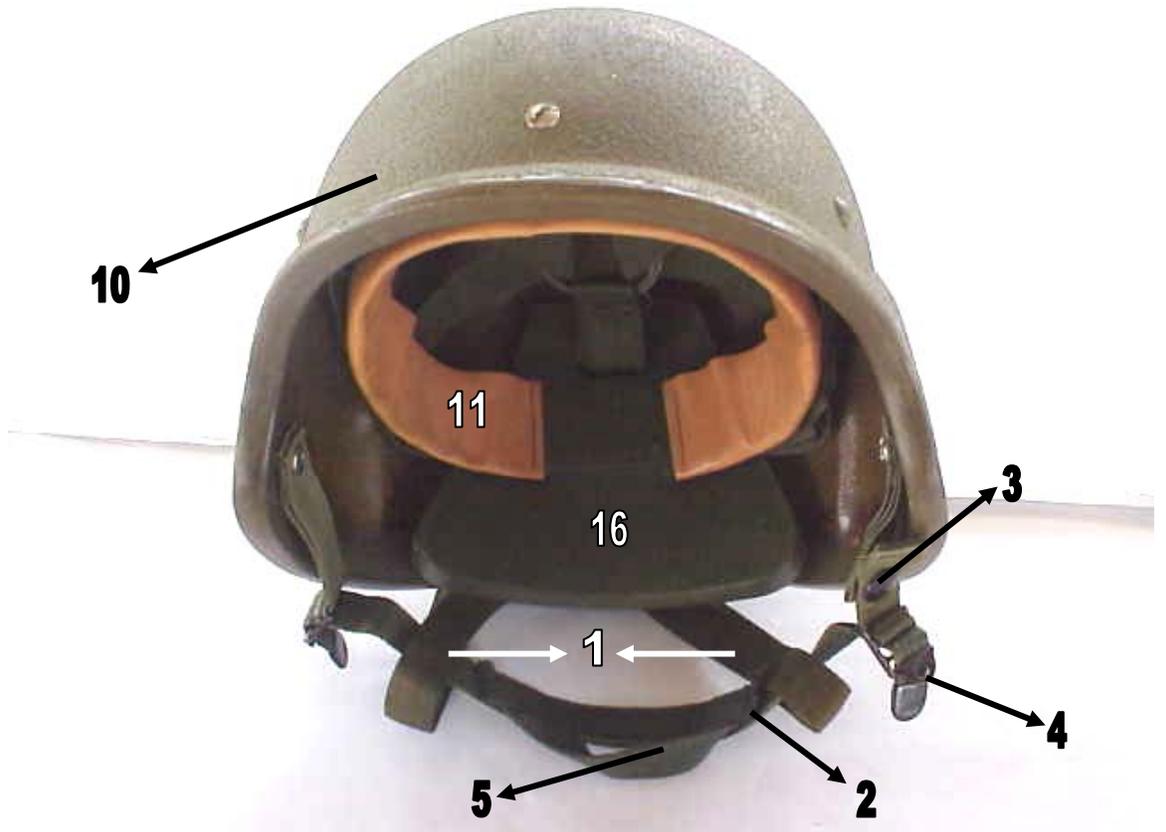
G. Modular Lightweight Load-Carrying Equipment:

1. Main compartment
2. Outer accessory pouch
3. Two side compartments
4. Sleeping bag carrier
5. MOLLE frame
6. Top carrying handle
7. Back pad
8. Butt pack

The ALICE Pack and MOLLE **MUST** always be rigged to be jumped and lowered.

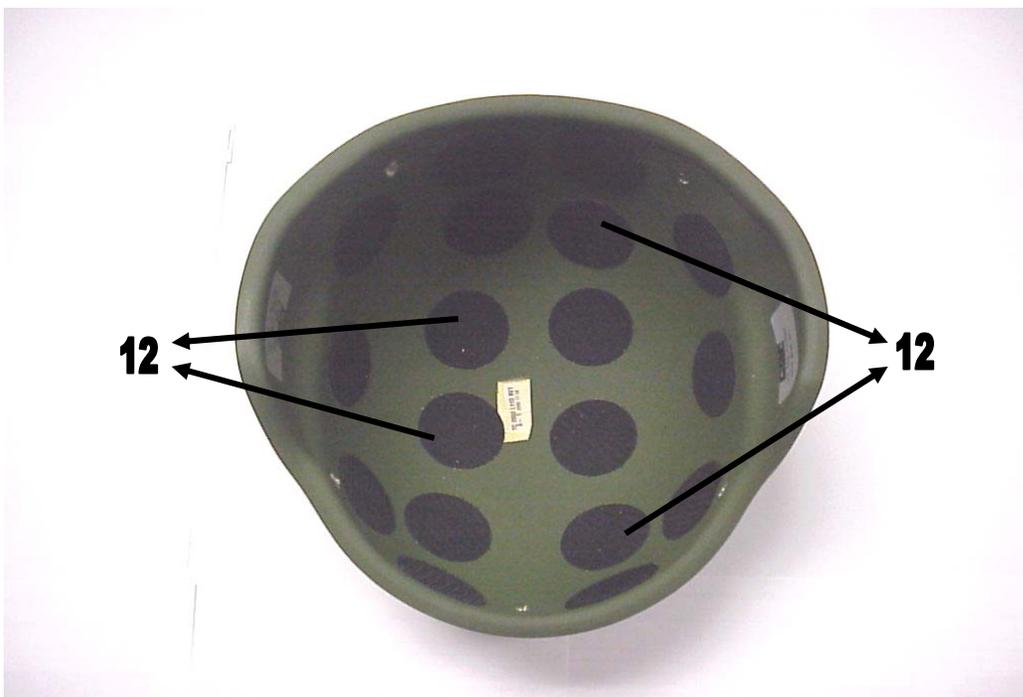
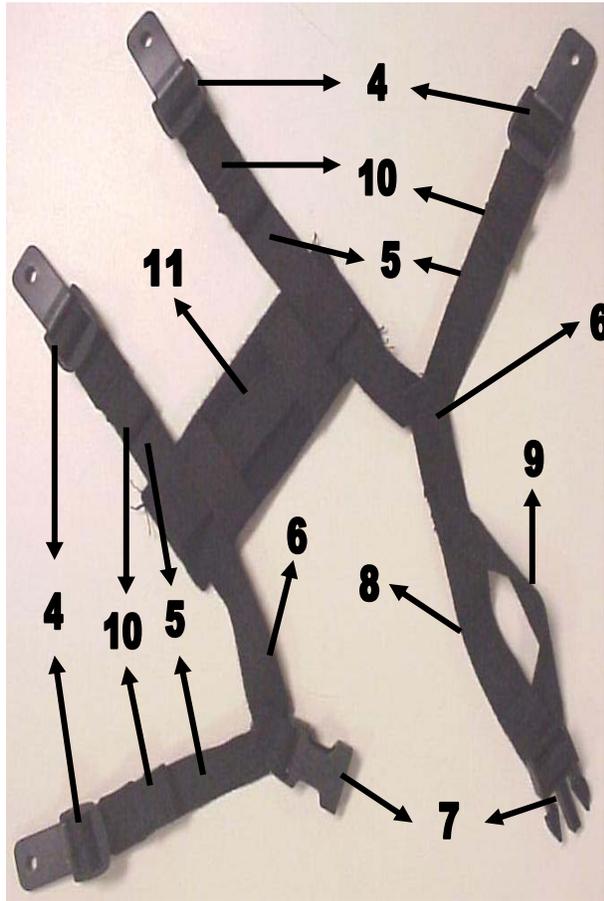
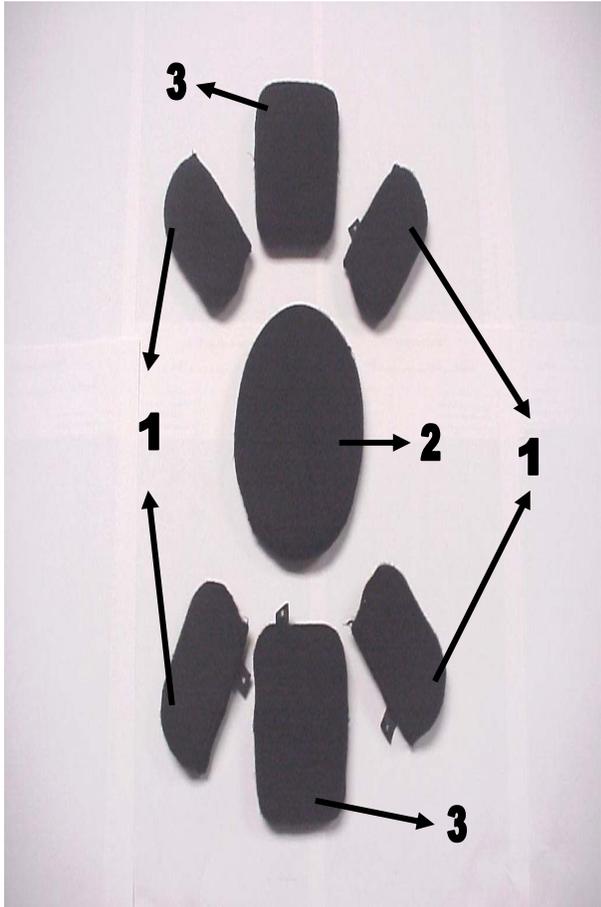
BALLISTIC HELMET

1. PARACHUTIST RETENTION STRAP
2. LONG CONTINUOUS PORTION CHINSTRAP
3. PULL THE DOT FASTENER WITH TAB
4. ADJUSTING BUCKLE
5. SHORT SEWN PORTION CHINSTRAP
6. SUSPENSION BAND WITH DRAWSTRING AND ADJUSTABLE TAB
7. HEADBAND
8. ADJUSTING BUCKLE WITH TAPE
9. ATTACHING CLIP
10. BALLISTIC HELMET
11. MODIFIED HEADBAND
12. SECURING TABS
13. ADJUSTABLE TAB
14. MODIFIED SUSPENSION BAND WITH DRAWSTRING AND ADJUSTABLE TAB
15. FOAM IMPACT PAD
16. MODIFIED FOAM IMPACT PAD



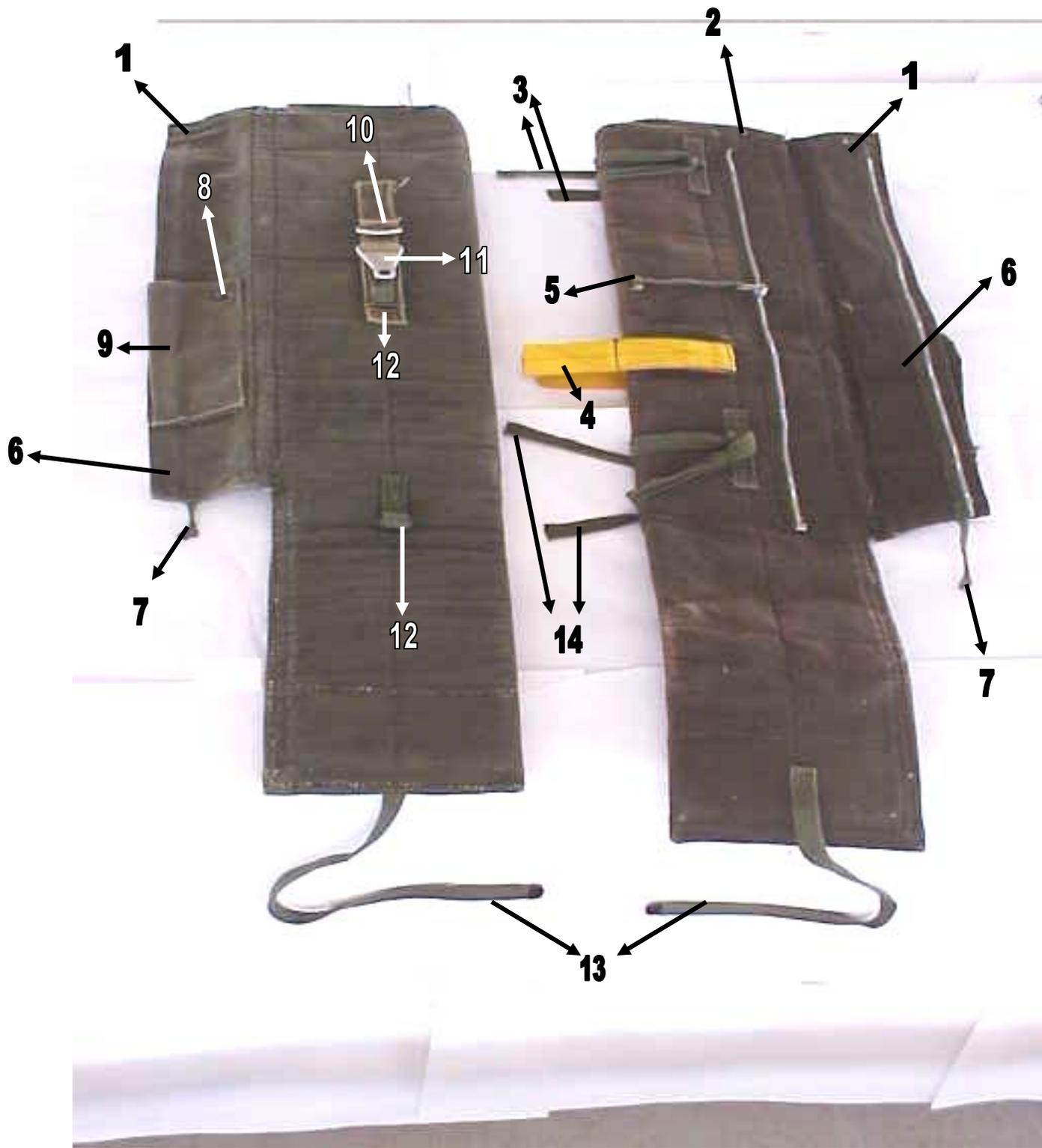
ADVANCED COMBAT HELMET

1. OVAL PAD
2. CROWN PAD
3. TRAPEZOID PAD
4. ADJUSTABLE BUCKLE
5. ADJUSTABLE STRAP
6. MODIFIED CHINSTRAP ASSEMBLY
7. CHIN STRAP FASTENER
8. LONG PORTION CHIN STRAP
9. SHORT PORTION CHIN STRAP
10. WEBBING RETAINER
11. NAPE PAD
12. HOOK DISK



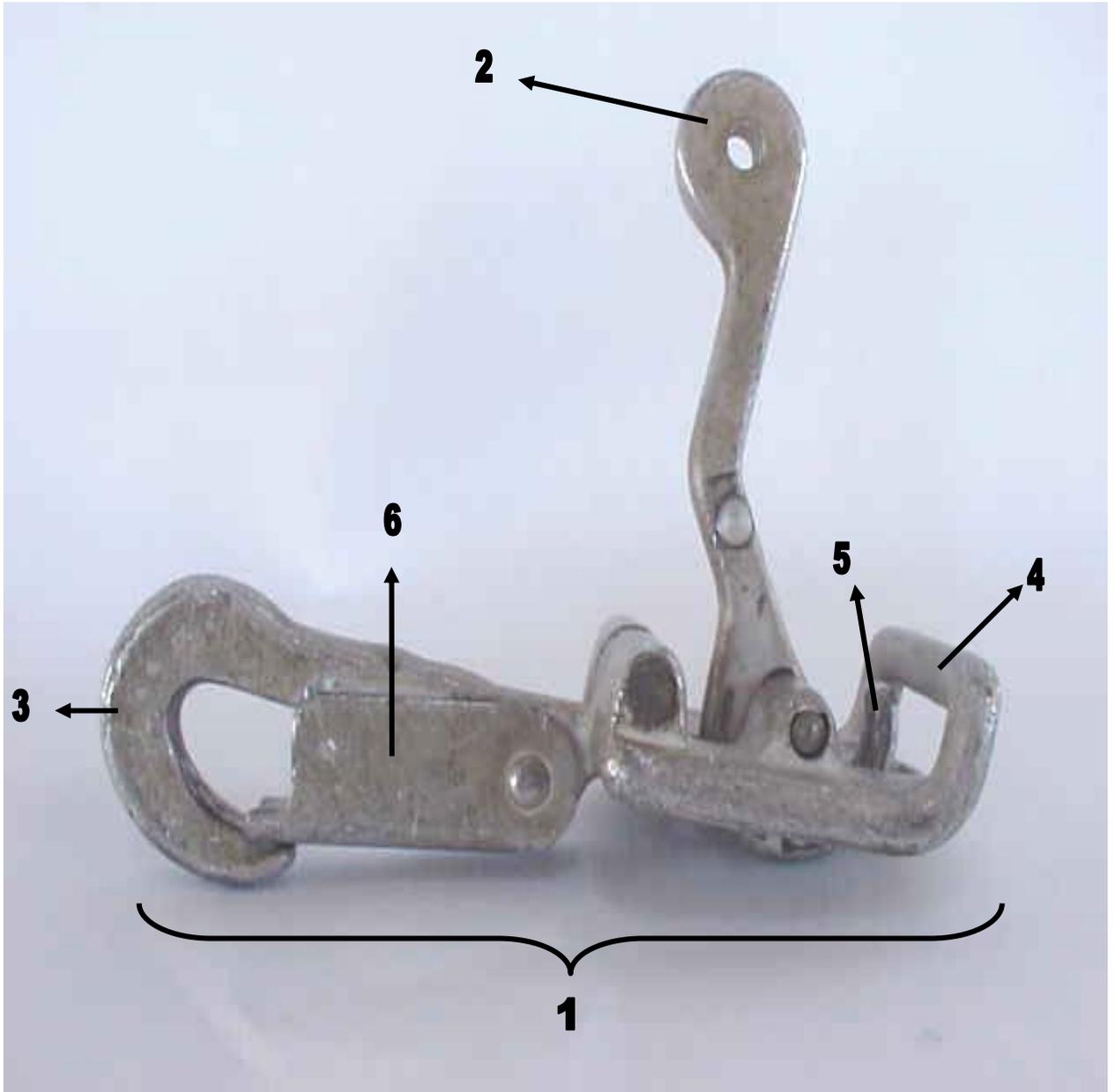
M1950 WEAPONS CASE

1. FEMALE PORTION, LIFT FASTENER
2. MALE PORTION, LIFT FASTENER
3. UPPER TIE DOWN TAPE
4. LOWER TIE DOWN STRAP
5. SLIDE FASTENER AND TAB THONG
6. CLOSING FLAP
7. FLAP THONG
8. LIFT FASTENER
9. LOWERING LINE STOW POCKET
10. "V" RING
11. QUICK RELEASE LINK
12. ADJUSTING STRAP CONNECTOR
13. ADJUSTING STRAP
14. LOWER TIE DOWN TAPE



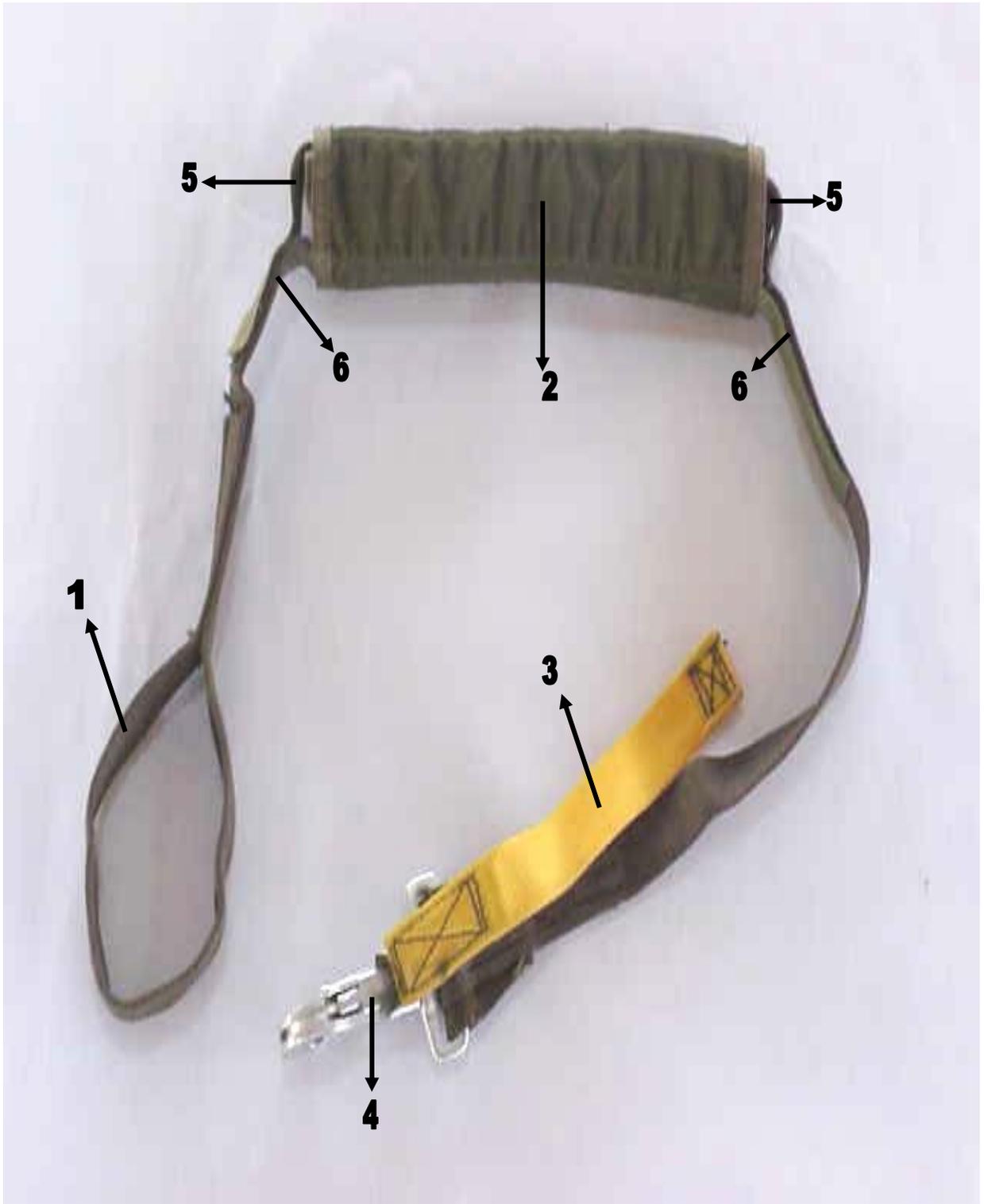
QUICK RELEASE SNAP

1. QUICK RELEASE SNAP
2. ACTIVATING ARM
3. SNAP FASTENER
4. FEMALE PORTION QUICK RELEASE SNAP
5. ROTATING CLAW
6. OPENING GATE



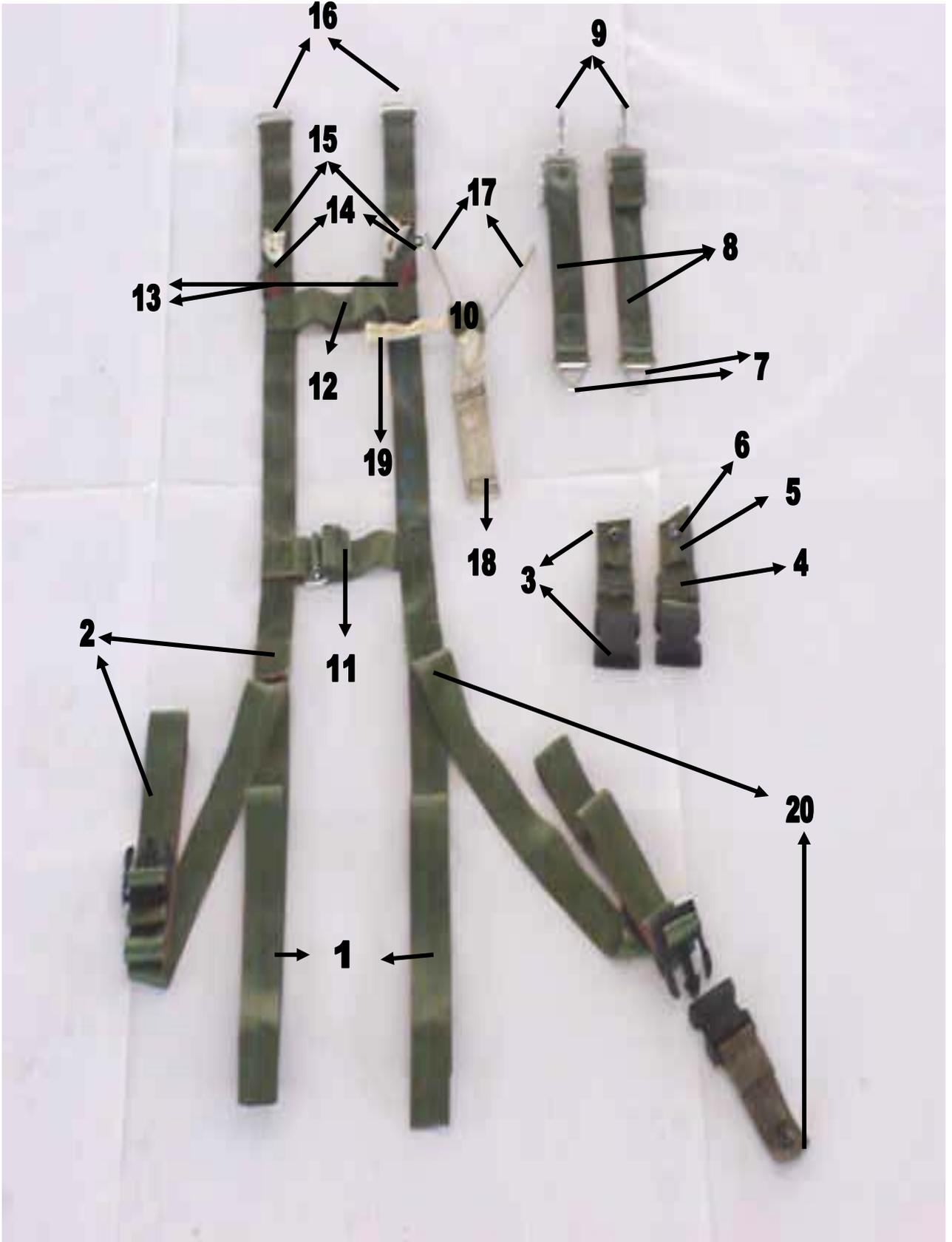
HOOK PILE TAPE LOWERING LINE

1. LOOPED END HOOK PILE TAPE LOWERING LINE
2. RETAINER FLAP
3. YELLOW SAFETY LANYARD
4. EJECTOR SNAP
5. HOOK TAB
6. PILE TAB



HARNESS SINGLE POINT RELEASE

1. EQUIPMENT RETAINER STRAP
2. MALE PORTION, LEG STRAP RELEASE ASSEMBLY
3. FEMALE PORTION, LEG STRAP RELEASE ASSEMBLY
4. WEBBING RETAINER
5. CABLE LOOP RETAINER
6. GROMMET
7. TRIANGLE LINK
8. ADJUSTABLE D – RING ATTACHING STRAP
9. SNAP HOOK
10. RELEASE HANDLE ASSEMBLY
11. ADJUSTABLE CROSS STRAP
12. RELEASE HANDLE CROSS STRAP
13. RED ATTACHING LOOP
14. GREEN ATTACHING LOOP
15. WHITE ATTACHING LOOP
16. FRICTION ADAPTER
17. RELEASE HANDLE CABLE
18. RELEASE HANDLE
19. RELEASE HANDLE LANYARD
20. ADJUSTABLE LEG STRAP.



SUBJECT: Malfunctions, Entanglements and Emergency Landings

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapter 13.

A. Malfunctions: A malfunction is any discrepancy in the deployment or inflation of the parachute, which may cause any faulty, irregular or abnormal condition, which may cause the jumpers rate of descent to increase.

1. Two categories of malfunctions:

- Complete or Partial

a. Complete malfunctions are caused by failure to deploy or failure to inflate:

1. Failure to deploy:

- Broken universal static line
- Broken anchor line cable
- Failure to hook up
- Jumper being cut free from being towed

2. Failure to inflate:

- Streamer

b. Partial malfunctions:

1. Semi-inversion
2. Squid
3. Cigarette roll
4. Complete inversion
5. Damaged suspension lines
6. Blown section or gore

2. Partial malfunctions are caused by:

- a. Excessive aircraft speed
- b. High power setting on aircraft engines
- c. High angle of draft (Crabbing)
- d. Rigger error
- e. Unsatisfactory body position

B. Entanglements:

Two types:

- High altitude: caused by simultaneous exit from the aircraft
- Mid altitude: caused by one or more jumpers failing to observe the third point of performance.

C. Emergency Landings:

1. Tree landing
2. Wire landing
3. Water landing

D. Towed Parachutist:

1. If you are being towed by your universal static line, and you are unconscious, you will be retrieved back inside the aircraft.
2. If you are conscious, maintain a good tight body position. Place your right hand over the ripcord protector flap with your right forearm protecting the ripcord grip. An attempt will be made to retrieve you. If you cannot be retrieved, your universal static line will be cut. Once you feel yourself falling free from the aircraft, activate your reserve parachute utilizing the Pull Drop Method.

E. The Jumpmaster's or Safeties actions upon identifying a towed parachutist are:

The first thing is to identify if there is a towed jumper and notify the loadmaster as you turn the paratroop door over to the loadmaster. The loadmaster will identify if the jumper is being towed by the Universal Static Line or by an item of equipment. If the jumper is being towed by an item of equipment the loadmaster will let the Jumpmaster or the Safety cut that item of equipment. If the Universal Static Line is towing the jumper the loadmaster will identify whether the jumper is conscious or unconscious. When the jumper is unconscious the loadmaster will notify the pilot and begin to retrieve the jumper with the assistance of the Jumpmaster or the Safety. When the jumper is conscious the loadmaster will notify the pilot and then make the determination whether to cut or retrieve the jumper. When the determination has been made to cut the Universal Static Line the loadmaster will cut on the command of the pilot.

SUBJECT: Introduction to Army Aircraft

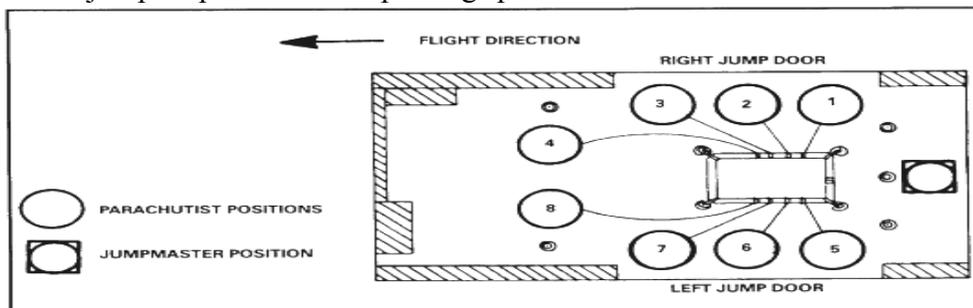
REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapters 4 & 18.

A. General Information:

1. Authorization from the Division Commander. All other units require Corps Commander approval. Request for exception to policy should be forwarded to the Corps Chief of Staff.
2. JM/Pilot brief will be conducted 24 hours prior to manifest call.
3. A minimum of two Wind Drift Indicators (WDI) are required.
4. Drop altitudes:
 - Maximum: 2,999 feet above ground level
 - Minimum: 1,500 feet above ground level (1200 feet if AC speed is above 90 knots).
5. JM duties on Army Aircraft **DO NOT** count for currency.

B. UH-60 Blackhawk:

1. 8 combat equipped jumpers.
2. Jumper's 1 – 3 Starboard side (right); jumper's 4 - 6 Port side (left).
3. Jumper's 1 – 3 and 4 Starboard side (right); jumper's 5 - 7 and 8 Port side (left) when jumping 8 total.
4. Drop speed: Maximum – 75 knots, Minimum – 65 knots.
5. After JMPI, the JM will route the universal static line from bottom to top through the static line slack retainer
6. JM will hook up each jumper's universal static line to the modified anchor line cable.
7. Two-time warnings given in conjunction with jump commands.
8. Jump Commands:
 - a. "GET READY" (4 Minutes)
 - b. "CHECK STATIC LINES"(JM will inspect each jumpers universal static line)
 - c. "CHECK EQUIPMENT"
 - d. "SOUND OFF FOR EQUIPMENT CHECK"
 - e. "SIT IN THE DOOR" (30 Seconds)
 - f. "STAND BY" (8 – 10 Seconds) this is not a time warning
 - g. "GO"
9. JM will observe universal static line as the jumper's exit the aircraft.
10. Ensure jumpers protect their ripcord grip.



C. CH-47 Chinook:

1. 28 total jumpers.
2. Odd numbered personnel – Starboard side; Even numbered personnel – Port side
3. Drop speed: Maximum – 110 knots, Minimum – 80 knots.
4. Two-time warnings given in conjunction with jump commands.
5. Jump Commands:
 - a. “GET READY” (6 Minutes)
 - b. “PORT SIDE PERSONNEL STAND UP”
 - c. “STARBOARD SIDE PERSONNEL STAND UP” (Jumper’s merge to make one stick)
 - d. “HOOK UP”
 - e. “CHECK STATIC LINES”
 - f. “CHECK EQUIPMENT”
 - g. “SOUND OFF FOR EQUIPMENT CHECK” (1 Minute)
 - h. “STAND BY” (8 – 10 Seconds)
 - i. “GO”
6. Jumpers will secure the universal static line utilizing a reverse bite.
7. Prior to exit, the ramp must be lowered 3 degrees below horizontal.
8. Jumpers will exit from the Starboard side of the aircraft, at a 45-degree angle, off the Port side of the ramp.
9. The JM may be a static JM. If the JM is exiting, then the JM will be the #1 jumper and a Safety is required.

D. Safety:

1. Jumper’s MUST protect the ripcord grip at all times.
2. Approach aircraft at the proper angle.
3. Jumpers must be seat belted in prior to take off.
4. Jumper’s seat belts stay secured until “Get Ready”.
5. Jumpers must wear their ballistic helmets / advanced combat helmets at all times. For an extended flight on a CH-47 Chinook, jumper’s may remove their ballistic helmets / advanced combat helmets after take off; however, they must put them back on prior to “Get Ready”.

CH-47 CHINOOK SEATING

PORTSIDE

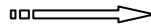
STARBOARD
SIDE

2
8



2
7

2
6



2
5

24



23

22



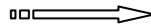
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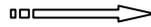
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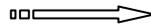
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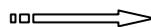
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4



3

2



1



DOF

SUBJECT: Drop Zone Safety Officer (DZSO)

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapter 15.

A. General Information: The DZSO is the Airborne Commander's representative on the drop zone. The DZSO is solely responsible for the safe and efficient operation of the drop zone.

B. DZSO Qualifications:

1. SSG or above. For operations involving 4 or more aircraft, the DZSO must be SFC or above.
2. Current and qualified Jumpmaster.
3. Must be advanced rated parachutist. This is waivable for field grade officers.

C. DZSO Currency:

1. Receive hands on training with a wind speed indicator.
2. Must assist a current and qualified DZSO at least twice / perform duties at least every 180 days.

D. Assistant DZSO Qualifications:

1. CPL or above.
2. Current and qualified Jumpmaster.
3. Receive hands on training with a wind speed indicator.
4. Familiarized with proper RTO procedures on a DZ.

E. DZSO Party:

Consists of the following:

1. Malfunctions Officer – Must be CPL or above and a current and qualified rigger.
2. Medical Coverage Team – Senior Medic must be a SGT or above, or a SPC if EMT qualified. For an airborne operation involving 500 or more jumpers, or 241 jumpers or more on one pass, a Surgeon, or Physicians Assistant, is required.
3. Ladder Detail – Required for all Fort Bragg or Camp Mackall airborne operations.
4. Boat Detail – Needed only if water obstacle is 4 feet deep or deeper and is within 1,000 meters of the drop zone. (Specific requirements are based upon ABN CDR'S risk analysis of the obstacle (i.e. ocean, river, and lake ECT).
5. Road Guards - For all high-speed avenues of approach to the drop zone.

F. Co-ordination Requirements:

1. Coordination with all Airborne Commanders for airborne operations that the DZSO is responsible for.
2. All units providing DZSO Party Support.
3. Medical Coverage Team IAW 82D ABN DIV ASOP, Edition VI, Chapter 7.
4. Range control safety briefing; no earlier than 24 hours prior to the airborne operation.
5. Procure necessary equipment.

G. Duties and Responsibilities:

1. Prior to moving to the drop zone, receive a briefing from the GLO.
2. Link up with all personnel in the DZSO party. Inspect all equipment, then convoy to the drop zone.
3. Open the drop zone with Range Control NLT 1 hour prior to drop time. (For airborne operations on Camp Mackall, contact Mackall Tower, during duty hours, to open the drop zone. After duty hours, contact Range Control.)
4. Must be present at the drop zone, with the DZSO Party, NLT 1 hour prior to drop time. If the airborne operation is a mass tactical operation then the DZSO party must be on the DZ by weather decision.
5. The first action at the drop zone is to locate the STS/DZSTL and discuss the airborne operation.
6. Conduct reconnaissance of the drop zone for any safety hazards.
7. Brief and position the DZSO Party.
8. Co-locate with the STS/DZSTL NLT 15 minutes prior to drop time. If the STS is located at the highest point on the drop zone, position the Assistant DZSO anywhere on the drop zone to get good wind readings.
9. Establish a 10 minutes window at 12 minutes out. Final decision is made 2 minutes out. Take wind readings until the last jumper has landed.
10. Ensure all rotary wing aircraft are parked off the drop zone, with the rotor blades tied down, 10 minute prior to drop time.
11. Contact Range Control 5 minutes prior to drop time for final clearance.
12. If it is a night airborne operation, ensure all lights are out NLT 5 minutes prior to drop time.
13. Control vehicles on the drop zone.
14. Unless authorized by the CG, ADCO, or The Chief of Staff, only the DZSO and STS/DZST vehicles will be located at the code letter.
15. Ensure all antennas are tied down.
16. Ensure no vehicles are moving while the aircraft approaches or while jumpers are in the air.
17. All vehicles on the drop zone have the engines running with the drivers behind the wheel, ballistic helmets / advanced combat helmets secured, during the entire airborne operation.

18. Close the drop zone to traffic:

Place Road Guards:

- 5 minutes prior to drop time for proficiency operations.
- 30 minutes prior to and after drop time for tactical operations.

19. No assembly aids lit until the last pass is complete.

20. After each pass authorize senior medic to sweep DZ.

21. After final pass have STS contact A/C for number of jumpers and / or equipment left on board.

H. Wind and Weather Data:

1. Wind readings will be taken from a minimum of two locations. One location MUST be the highest point on the drop zone.
2. Surface wind speed will not exceed:
 - a. Personnel – 13 knots, to include gusts.
 - b. Equipment – 17 knots, to include gusts.
3. There are no limitations on winds at altitude.
4. Airborne operations can be conducted in the rain, if it is coordinated with the DIV G-3 Air.
5. AWADS operations will not be conducted if the ceiling is less than 200 feet above ground level. The ceiling will be determined by the STS.

I. Medevac:

For Medevac aircraft to be called in, the airborne commander or their representative must be notified by the DZSO, the injury to the jumper, must be classified as URGENT by the Senior Medical personnel.

J. Flash Report:

Submit Flash Report to the DACO, immediately after the airborne operation. Submit Checklist Format for Incident Reporting to the DACO, if utilized.

K. Closing the Drop Zone:

Close the drop zone only after the entire airborne operation is complete. Ensure that all injured jumpers have been treated and released or evacuated. Ensure the Flash Report has been submitted. Once this has been accomplished, the Airborne Commander will release the DZSO from the drop zone. The DZSO will be released from all duties and responsibilities by the DACO.

L. Review Chapter 5 of the 82D ABN DIV ASOP for smoke requirements for MC1-1D parachute operations.

SUBJECT: Departure Airfield Control Officer

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapter 16.

- A. General Information: The DACO is the Airborne Commander's representative at the departure airfield. The DACO is responsible for the safe and efficient outload of personnel and equipment.
- B. DACO Qualifications:
1. SGT or above for proficiency operations.
 2. SSG or above for tactical operations.
 3. Current and qualified Jumpmaster.
 4. Assist a fully qualified DACO at least once.
- C. Assistant DACO Qualifications:
1. SGT or above.
 2. Does not have to be Jumpmaster qualified.
- D. Duties and Responsibilities:
1. Report to the GLO, at Building S – 900, NLT 20 minutes prior to the first weather decision time on the air letter.
 2. Be present for all joint weather decisions, unless otherwise directed by the GLO.
 3. Ensure the results of the weather decision are reported to the DZSO, Airborne Commander or Division SDO, as well as all units concerned.
 4. Establish and maintain radio or telephone communications with the DZSO NLT 1 hour prior to drop time.
 5. Brief the JM Team and Safeties on the serious incident brief and have them sign the roster, also any changes to the air letter or the Air Movement Table.
 6. Receive all jumpers and equipment left on board the aircraft, especially towed parachutist or jump refusal. If there is a jump refusal, the DACO will conduct JMPI on the jumper. Additionally, a current and qualified Rigger will conduct a technical inspection of the jumper's equipment. A statement must be written identifying any discrepancies in the jumper's equipment. A statement must be done by Safeties, Riggers and the Jump Refusal
 7. Turn in a complete and accurate: Strike report, Flash Report, Red / Amber Light Exit Report and a Serious Incident report and then give a copy to the SDO or the Division G-3 Air representative.
 8. For operations involving 5 or more aircraft, report aircraft departures to the G-3 Air and DZSO.
 9. Ensure entire DZSO Party is present on the drop zone, NLT 1 hour prior to drop time.
 10. Ensure safeties police the aircraft and the departure airfield.
 11. DACO is released from duties by the GLO.
 12. Ensure the DRF7 unit provides a medic with CLS/Aid Bag and vehicle.
 13. DACO will notify the G-3 Air and GLO if the CLS/Aid Bag and vehicle is not present.

SUBJECT: AT – 4 Jump Pack (AT – 4 JP)

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapter 10.



AT – 4 Jump Pack (AT – 4 JP)

A. Qualifications:

1. The jumper must be at least 5 feet 6 inches in height.
2. The jumper must have at least 12 static line jumps from Air Force aircraft.
3. The jumper must make 2 perfect exits from the right door of the 34-foot tower, with the AT – 4 JP.
4. The jumper must be talked through the 5 points of performance, and lowering procedures, with the AT – 4 JP, while in the suspended harness.

B. Currency:

The jumper must jump once every 180 days, from Air Force aircraft, with the AT – 4 JP. If not, the jumper must go back through tower training.

C. Limitations:

1. The AT – 4 JP cannot be jumped from the left paratroop door of Air Force aircraft.
2. The AT – 4 JP cannot be jumped from any aircraft, which requires the jumper to exit from the seated position.
3. When exiting A – Series containers, the #1 jumper will never be rigged with the AT – 4 JP.
4. The AT – 4 JP and the M1950 weapons case cannot be jumped at the same time.
5. The only weapons authorized to be jumped inside the AT – 4 JP are:
The M16A1/A2 Rifle or the M4 Carbine.
6. Only 12 AT – 4 JP's can be exited from the right paratroop door, per pass.
(One AT - 4 JP will be removed from the pass, for each additional special item of equipment that is added on).

D. General Information:

1. The AT – 4 JP can be jumped anywhere in the stick to best support the tactical cross load.
2. The AT – 4 JP is authorized to be jumped and lowered as a single item of equipment. An HPT lowering line and lowering line attachment strap must be utilized.
3. The AT – 4 JP is a special item of equipment; therefore, it **SHOULD** be rigged 24 hours prior to manifest call; but it **MUST** be rigged **NLT** 1 hour prior to manifest call.
4. At the 20 minute time warning, the safety will attach the AT – 4 JP to the jumper and route the modified HPT lowering line through the D-Rings. The safety will then conduct a final technical inspection of the combat equipment and the AT – 4 JP.
5. When exiting a CH-47 Chinook, all 28 jumpers can exit with the AT-4JP.



AT – 4 Jump Pack (AT – 4 JP)

SUBJECT: Dragon Missile Jump Pack (DMJP)

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapter 10.



Dragon Missile Jump Pack (DMJP)

A. Qualifications:

1. The jumper must be at least 5 feet 6 inches in height.
2. The jumper must have at least 12 static line jumps from Air Force aircraft.
3. The jumper must make 2 perfect exits from the right door of the 34-foot tower with the DMJP.
4. The jumper must be talked through the 5 points of performance and lowering procedures, with the DMJP, while in the suspended harness.
5. If you are qualified to jump the DMJP, then you are also qualified to jump the AT – 4 JP; however, you must attend quarterly rigging classes.

B. Currency:

The jumper must jump once every 180 days, from Air Force aircraft, with the DMJP. If not, the jumper must go back through tower training.

C. Limitations:

1. The DMJP cannot be jumped from the left paratroop door of Air Force aircraft.
2. The DMJP cannot be jumped from any aircraft that requires the jumper to exit from the seated position.
3. When exiting A – Series containers, the #1 jumper will never be rigged with the DMJP.
4. The DMJP and the M1950 weapons case cannot be jumped at the same time.
5. The only weapons authorized to be jumped inside the DMJP are: the M16A1/A2 Rifle, the M4 Carbine or the M203 Dual Purpose Weapon.
6. Only 6 DMJP's can be jumped, from the right paratroop door, per pass.
7. Only the Modified Hook Pile Tape Lowering Line is authorized for use on the DMJP. (Unless the DMJP contains a SKEDCO litter)
8. If jumping a Dragon missile in the DMJP, it is not authorized to be jumped and lowered as a single item of equipment.

D. General Information:

1. The DMJP can be jumped anywhere in the stick to best support the tactical cross load.
2. The DMJP is a special item of equipment; therefore, it **SHOULD** be rigged 24 hours prior to manifest call; but it **MUST** be rigged **NLT** 1 hour prior to manifest call.
3. At the 20-minute time warning, the safety will attach the DMJP and the ALICE packs to the jumper. However if the jumper is jumping a Modified DMJP the jumper will be JMPI'D with the ALICE pack / MOLLE attached and at the 20-minute time warning the safety will attach the Modified DMJP. The safety will then conduct a final technical inspection of the combat equipment and the DMJP.
4. The DMJP is also utilized to deliver the SKEDCO litter to the drop zone and it can be jumped as a single item of equipment, however a HPT lowering line will be utilized instead of the modified HPT lowering line. It will be configured with the looped end and the ejector snap protruding from the same end of the retainer flap.
5. When exiting a Ch-47 Chinook, all 28 jumpers can exit with the DMJP.



Dragon Missile Jump Pack (DMJP)

SUBJECT: Stinger Missile Jump Pack (SMJP)

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapter 10.



Stinger Missile Jump Pack (SMJP)



(An M4 Carbine padded and taped to be jumped exposed.)

A. Qualifications:

1. The jumper must be at least 5 feet 8 inches in height.
2. The jumper must have at least 12 static line jumps from Air Force aircraft.
3. The jumper must make 2 perfect exits from the right door of the 34-foot tower, with the SMJP.
4. The jumper must be talked through the 5 points of performance, and lowering procedures, with the SMJP, while in the suspended harness.
5. Before you can jump the SMJP, from 800 feet above ground level, you must make 2 daylight jumps from 1250 feet above ground level.

B. Currency:

The jumper must jump once every 180 days, from Air Force aircraft, with the SMJP. If not, the jumper must go back through tower training.

C. Limitations:

1. The SMJP cannot be jumped from the left paratroop door of Air Force aircraft.
2. The SMJP cannot be jumped from Army aircraft.
3. When exiting A – Series containers, from the right paratroop door, no SMJP will be exited that pass.
4. The SMJP and the M1950 weapons case cannot be jumped at the same time. The jumpers M16A1/A2 or M-4 Carbine Rifle will be jumped exposed.
5. The SMJP must be jumped from the #1 jumper or #1 and #2 jumper positions.
6. Only 2 SMJPs can be jumped, from the right paratroop door, per pass.
7. During proficiency jumps, up to 6 SMJP may be jumped from the right paratroop door, with a 2 second interval between jumpers.
8. The SMJP must be rigged as a tandem load with the Alice pack / MOLLE.

D. General Information:

1. The SMJP is a special item of equipment; therefore, it **SHOULD** be rigged 24 hours prior to manifest call; but it **MUST** be rigged **NLT** 1 hour prior to manifest call.
2. At the 20-minute time warning, the safety will attach the SMJP to the jumper. The safety will then conduct a final technical inspection of the combat equipment and the SMJP.
3. The left adjustable leg strap will not be utilized with the SMJP.

SUBJECT: A – Series Containers for Air Force Aircraft

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapters 11 & 13.



A-21 Cargo Bag



A-7A Cargo Sling

A. Restrictions:

1. One per paratroop door, first pass only, from the first three aircraft in an offset trail formation.
2. A – Series containers are not authorized to be exited under AWADS conditions. (This is a peacetime restriction only.)

B. Weights and Dimensions:

1. Maximum weight: 350 pounds, **EXCLUDING** the T – 10 modified cargo parachute.
2. Minimum weight: 90 pounds, **EXCLUDING** the T – 10 modified cargo parachute.

3. Maximum dimensions: 30 inches wide, 66 inches high and 48 inches deep, to **INCLUDE** the cargo parachute. Dimensions are measured in relation to how the load sits in the paratroop door.
4. Minimum dimensions: There are no minimum dimensions; however, the load must meet weight criteria and be large enough to attach the cargo parachute.

C. General Information:

1. When exiting A – Series containers, the #1 jumper must be jumpmaster qualified, but does not have to be current and the #1 jumper must also place a Rip Cord Grip Insert into their MIRPS.
2. If hazardous materials are present, then a Shippers Declaration For Dangerous Goods (SDDG) must be attached to the personnel manifest.
3. A completely rigged A – Series container, must have a Load Data Card, with the following information:
 - Unit
 - Chalk
 - Contents
 - Gross Weight (Includes cargo parachutes)

D. A-21 Cargo Bag:

Four major components: (Weighs approximately 18 pounds)

1. Canvas cover
2. Sling assembly with scuff pad attached
3. Ring strap group
4. Quick release assembly: (3 safety features)
 - a. Safety fork and lanyard
 - b. Turn to unlock
 - c. Press or strike to release

E. A – 7A Cargo Sling:

Two major components: (Weighs approximately 6 pounds)

1. A – 7A Straps: 4 A – 7A straps approximately 188 inches in length with a permanently sewn quick fit adapter with thick lipped floating metal bar.
2. D – Rings: 4 each

Weight limitations for A – 7A Cargo Sling:

T – 10 Modified Cargo Parachute:

90 – 250 pounds: 2 strap load

251 – 350 pounds: 3 or 4-strap load

F. T – 10 Modified Cargo Parachute: (Weighs approximately 21 pounds):

Dimensions: 18 inches long, 12 inches wide and 5 inches deep.

1. Used for both the A – 21 Cargo Bag and the A – 7A Cargo sling.



A-7A Cargo Sling with T-10 Modified Cargo Parachute

G. Exiting Procedures for Air Force Aircraft:

1. At the 20-minute time warning: Move the load into the vicinity of the paratroop door. Remove the load data card. Hook up the load to the outboard anchor line cable. Conduct a final inspection of the load. For night airborne operations, the Jumpmaster will activate the chemlights at the 20-minute time warning.
2. When paratroop doors are opened: Move the load to the trail edge of the paratroop door. Ensure the Jumpmaster still has enough room to conduct jump platform checks.
3. At "Stand By": The Jumpmaster will bisect the lead edge of the paratroop door and receive their universal static line, with the trail hand, from the Safety. The #1 jumper will pass control of their universal static line to the Jumpmaster. The Jumpmaster will control the #1 jumper's universal static line with their hand. On the green light the Jumpmasters will issue the command of "GO", the #1 jumper and the Safety will exit the load by pushing on the bottom two thirds of the load. The #1 jumper will then assume the #1 jumper position. The Jumpmaster will pass control of the #1 jumper's universal static line to the Safety. The PJM will then receive a thumb up from the AJM. The PJM will then issue the command "GO", and continue exiting jumpers as normal.

SUBJECT: Rigging of Crew Served Weapons and the M249 Squad Automatic Weapon

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapters 9 & 10.

A. General:

1. Crew Served Weapons **MUST** always be lowered.
2. M249 SAW **MUST** always be lowered. It is too big or bulky to land with safely.

B. Rigging:

1. 60MM Mortar Weapons System:

The 60MM Mortar Weapons System has 6 component parts that are jumped by 3 personnel: The Gunner, Assistant Gunner and the Ammunition Bearer.

- a. Gunner: M225 Cannon, M8 Small Base Plate, M64 Sight Assembly and M9 Beretta.
 - b. Assistant Gunner: M170 Bipod Assembly and individual weapon.
 - c. Ammunition Bearer: M7 Large Base Plate, Aiming Stakes with Case, Ammunition and M16A1/A2 Rifle or M4 Carbine.
 - d. 6 rounds of 60mm mortars in Alice pack / MOLLE.
2. M64 Sight Assembly: If it is in its carrying case, pad with one turn cellulose wadding and place inside the main compartment of the ALICE pack / MOLLE. If the carrying case is not present, pad with two turns of cellulose wadding.



Aiming Stakes with Case

3. M8 Small Base Plate: Wrap with two turns of cellulose wadding and place inside the main compartment of the ALICE pack / MOLLE.
4. Ammunition: Place inside the main compartment of the ALICE pack / MOLLE. If the packaging tubes are present, it does not have to be padded and taped. If the packaging tubes are missing; each round of ammunition **MUST** be individually padded with two turns of cellulose wadding.

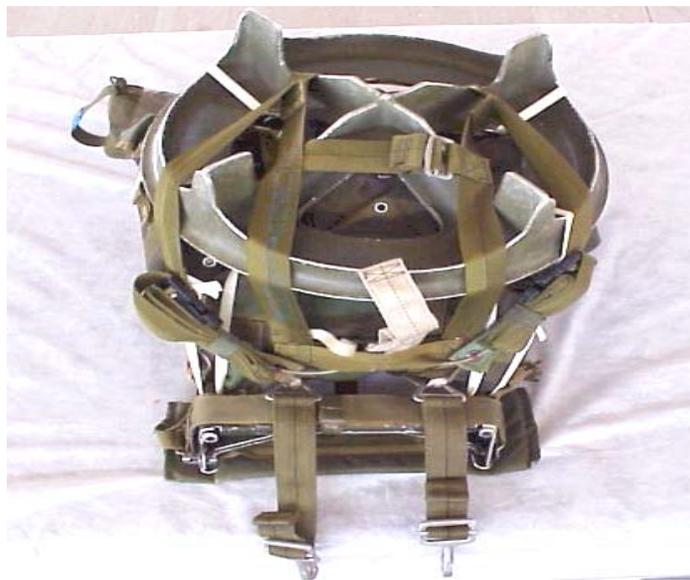
***** Ammunition is not authorized to be jumped under the closing flap of the ALICE pack / MOLLE. *****

5. Aiming Stakes with Case:

- a. Ensure the carrying case is free of rips, tears or holes. Ensure the lift fastener is serviceable. If it is unserviceable, then it will be secured with two turns tape, pressure sensitive, adhesive olive cloth.
- b. Girth hitch 2 sufficient lengths of ¼ inch cotton webbing to the compression straps or around the carrying case.
- c. Place under the closing flap of the ALICE pack / MOLLE in either direction.
- d. Secure the ¼ inch cotton webbing to the vertical equipment hangers of the ALICE pack / MOLLE with a single or double looped bowknot.

6. M7 Large Base Plate with ALICE pack:

- a. Place the base plate on the outer accessory pouches of the ALICE pack, with the legs facing skyward, aligned with the corners of the ALICE pack frame.
- b. Secure 4 sufficient lengths of ½ inch to 1 inch wide tubular nylon webbing.
- c. Route the top securing ties through the outer cutaway portions of the base plate, behind the legs, around the tubular portion of the ALICE pack frame, to the inside of the shoulder carrying strap loops. Then secure with a single or double looped bowknot.
- d. Route the lower securing ties through the center cutaway portions of the base plate, behind the legs, through the “V” notch, at the base of the ALICE pack frame, and secure with a single or double looped bow knot.



M-7 Large Base Plate

- e. Place a prepared Harness Single Point Release on top of the base plate. Route the equipment retainer straps through the top cutaway portion of the base plate, under the top securing ties, to the outside of the shoulder carrying strap loops, then continue to rig in the normal manner.
- f. Tighten and re-secure the securing ties with a square knot and half hitch in each free running end. Trim excess to 2 inches.

7. M7 Large Base Plate with MOLLE:

- a. Place the base plate on the MOLLE so that the legs are facing skyward, align the base plate with the four corners of the MOLLE frame.
- b. Secure 4 sufficient lengths of ½ inch to 1 inch wide tubular nylon webbing.
- c. Route the top securing ties through the outer cutaway portions of the base plate, behind the legs, through the cutaway portions on the top of the MOLLE frame. Then secure with a single or double looped bow knot.
- d. Route the lower securing ties through the small cutaway portions on the bottom corners of the MOLLE frame. Then secure with a single or double looped bow knot.
- e. Place a prepared Harness Single Point Release on top of the base plate. Route the equipment retainer straps through the top cutaway portion of the base plate, under the securing ties, under the MOLLE carrying handle, through the small cutaway portion of the MOLLE frame and over the back pad. Make sure they are crossed as normal and routed to their appropriate friction adaptors that were brought up through the large cutaway portion of the MOLLE frame.
- f. Tighten and re-secure the securing ties with a square knot and half hitch in each free running end. Trim excess to 2 inches.



M-7 Large Base Plate

8. M225 Cannon:

- a. M225 Cannon is rigged in the SAW Modified M1950 weapons case.
- b. DO NOT place ammunition or the M8 Small Base Plate inside the SAW Modified M1950 weapons case.
- c. Place the M225 Cannon in muzzle end first, with the trigger mechanism facing the closing flap.



M225 Cannon

9. M170 Bipod Assembly:

- a. M170 Bipod Assembly is rigged in the 60MM Modified M1950 weapons case.
- b. Traverse the yoke all the way to the right to place it in its smallest configuration.
- c. The 60MM Modified M1950 weapons case will not adjust snugly; however, the weight of the M170 Bipod Assembly will keep the adjusting strap secure.
- d. Ensure that enough slack is left in the adjusting strap to incorporate a half hitch.
- e. Tuck the remainder of the adjusting strap behind the fold of the 60MM Modified M1950 weapons case. Ensure the jumper checks it during “Check Equipment.”



M170 Bipod Assembly

10. M240B Machine Gun with Tripod and Spare Barrel Bag:

- a. The M240B Machine Gun can be jumped fully assembled or broken down in the Saw Modified M1950 weapons case.
- b. If the M240B machine gun is broken down, it must be padded and taped to prevent metal-to-metal contact.
- c. The upper tie down tape MUST secure the tab thong portion of the slide fastener and tab thong.
- d. Two jumpers are required to jump the M240B Machine Gun with Tripod and Spare Barrel Bag.
- e. The Spare Barrel Bag can be jumped in two ways:
 - Under the closing flap of the ALICE pack / MOLLE with the outer pockets facing the closing flap.
 - In the SAW Modified M1950 weapons case with the jumpers individual weapon. It will be placed under the jumpers individual weapon with the large end first and the outer pockets facing skyward. No padding is required.
- f. The Tripod can be jumped in two ways:
 - Under the closing flap of the ALICE pack / MOLLE. The short leg of the tripod will be secured with a sufficient length of ¼ inch cotton webbing. Ensure the short leg faces into the main compartment of the ALICE pack / MOLLE. (The flex mount will not be attached).
 - In the SAW Modified M1950 weapons case with the jumpers individual weapon. It will be placed under the jumpers' individual weapon with the long legs in first and the short leg facing skyward. The Tripod must be padded when it is jumped inside the SAW Modified M1950 weapons case.

11. M249 Squad Automatic Weapon:

- a. It can be rigged in either the M1950 weapons case or the SAW Modified M1950 weapons case. If it is rigged in the M1950 weapons case it must have a collapsible carrying handle.
- b. It will always be lowered because it is too big or bulky to land with safely.
- c. A 30 round magazine can be taped to the left side of the butt stock; however, no ammunition belts or drums can be placed inside.

12. SAW Modified M1950 Weapons Case, Jumped and Lowered as a Single Item of Equipment:

- a. Remove the quick release link from the V – ring.
- b. Secure a hook pile tape lowering line folded in its normal configuration.
- c. Girth hitch the looped end hook pile tape lowering line, from top to bottom, through the V – ring.

Secure the hook pile tape lowering line to the trail edge of the SAW Modified M1950 weapons case, with two turns of masking tape, in two locations: just below the quick release link and just above the upper set of adjusting strap connectors. Ensure the ejector snap is routed towards the upper portion of the SAW Modified M1950 weapons case.

SUBJECT: Assembly, Reorganization, Air Route Diagram and Introduction to the Computed Air Release Point (CARP)

REFERENCE: 82D ABN DIV ASOP, Edition VI, Chapters 4, 13, 15, & 18.

A. Four Phases of an Airborne Operation:

1. Ground Tactical Plan
2. Landing Plan
3. Air Movement Plan
4. Marshalling Plan

B. Assembly Factors:

1. Dispersion: Formation of aircraft, aircraft altitude and aircraft speed.
2. Mission: Day or night operation, equipment, type of operation and terrain.
3. Weather: Wind, Rain, Fog or Snow.
 AWADS: Adverse Weather Aerial Delivery System (C – 130)
 SKE: Station Keeping Equipment (C – 141B/C-17 Globemaster)
 INS: Inertial Navigation System (C – 141B/C-17 Globemaster)
4. State of Training: Jumpmaster has the most control of this factor.

C. Assembly Aids:

1. Natural
2. Mechanical

D. Air Route Diagram:

The Air Route Diagram or Flight Route can be obtained from the aircraft Navigator.

E. Computed Air Release Point (CARP):

1. The CARP is obtained from the aircraft Navigator during the JM/Pilot Crew briefing.
2. The CARP is an imaginary point in the air where the first parachute suspended object must exit the aircraft in order to strike the Personnel Point of Impact (PPI) or the Heavy Equipment Point of Impact (HEPI).

F. Determining Reference Points:

1. The 1-minute reference point is measured 4,000 meters, opposite the direction of flight, from the lead edge of the drop zone.
2. The 30-second reference point is measured 2,000 meters, opposite the direction of flight, from the lead edge of the drop zone.
3. A C – 130 Hercules, traveling at 130 knots (Planning drop speed), travels at 75 yards per second.

- a. To determine the 1 minute and 30 second reference points:

1 minute

75 yards per second
X 60 seconds
4,500 yards

- b. The Air Force uses yards and the Army uses meters; therefore, we must convert yards to meters.

1 minute

4,500 yards
X .9144111
4114.8499 meters

Round these off to the nearest thousand: 4,000 meters (1 Minute) and 2,000 meters (30 seconds)