



AFF STUDENT GUIDE

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Please feel free to use this as a reference for your AFF training, and distribute to your friends. Please give credit where credit is due.

This manual was completely revamped by Mike Hoogsteden, edited by TK and everyone else that got to put in their two cents worth. Thanks to Marcus Price for the artwork and Tony Hathaway for canopy control definitions.

7/17/98 – Rewritten for conversion to throw-out pilot chute systems. All references to main ripcords removed and reworded.

5/4/04 – Updated to latest methods and terminology

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DISCLAIMER - This manual is not intended, in any way, to teach skydiving. It is, simply, reference material used in conjunction with a complete ACCELERATED FREEFALL FIRST JUMP COURSE.

WARNING

1. Training and/or experience are required to lower the risk of serious injury or death!
2. Never use ANY skydiving equipment unless you have:
 - A. Read the warning label and completed a Controlled program of instruction in the use of this parachute assembly.
- OR-
- B. Read the warning label and all appropriate owners/flight manuals, obtained packing instruction, and completed at least 100 ram-air parachute jumps.
3. Lower the risk of death, serious injury, canopy damage and hard openings by never exceeding the limits shown on the warning label.
4. Warning labels may be found in the following locations:
 - A. Ram-air parachute- Center panel, Tail section.
 - B. Harness/Container system- Back-Pad.

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THEORY OF THE ACCELERATED FREEFALL PROGRAM

This program is called ACCELERATED FREEFALL because the learning process is 'accelerated' beyond other traditional skydiving programs, and all jumps on this program are FREEFALL SKYDIVES.

The AFF program is designed to provide semi-private instruction for the student who is seriously interested in becoming a skydiver, similar to private skiing or tennis lessons.

During the first three levels of AFF you exit the aircraft with 2 jumpmasters holding your harness to help provide stability and instruction 55-60 seconds of freefall. The last four levels are made with 1 jumpmaster.

This program has been carefully and systematically developed over many years and is fully approved by the United States Parachute Association. All the Skydive City Staff involved in this program have been duly certified by USPA as AFF Jumpmasters and or Instructors.

This program can be modified to meet the special needs of a student. It is not uncommon for a student to repeat a level or for that matter skip a level. Your progression through this program is based on your ability to perform on the skydive, in freefall as well as under canopy. Good Luck! Stay positive, and welcome to the world of skydiving!

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AFF LEVELS

1. First Orientation Jump
2. Introduce Team Turns
3. Forward Motion and Solo Freefall Dive
4. Basic 360° Turns
5. Advanced Forward Movement to Docking
6. First Solo Exit, Back loops, Stability Recovery and Tracking
7. Solo Diving Exit, Front loop, Back loop, 'Figure-8' Turns and Tracking

TERMS

USPA.....United States Parachute Association
FAA.....Federal Aviation Administration
FAR.....Federal Aviation Regulations
BSR.....Basic Safety Requirements (USPA)
COA.....Circle of Awareness
TLO.....Targeted Learning Objective
RSL.....Reserve Static Line
AAD.....Automatic Activation Device (Reserve Parachute)
PPCT.....Practice Pilot Chute
BOC.....Bottom of Container (Main Deployment location)
JM.....Jumpmaster(s)
AFF.....Accelerated Freefall
DZ.....Drop Zone

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SCHEDULE FOR YOUR FIRST DAY

- Introduction of instructors to all students
- Complete all necessary paper work, i.e. waivers, USPA Membership
- Walk around of all facilities
- Gear familiarization
- Break
- Start of classroom work
- Lunch Break
- Completion of classroom work
- Training for the Level 1 Skydive.
- SKYDIVE!

USPA BASIC SAFETY REGULATIONS (B.S.R.)

- Maximum ground wind speed for all students is 14 mph.
- Minimum exit altitude for all AFF jumps is 9000 feet.
- Maximum time between AFF jumps is 30 days. Going this long is NOT Recommended.
- Minimum USPA pull altitude is 3000 feet on all AFF jumps. (Also NOT Recommended)

AFF COMMON PROCEDURE AT SKYDIVE CITY

AFF exit altitudes are 13,500 feet.

Airplane choice is usually a Twin Otter.

Most AFF students get video of all their jumps.

Upon graduation you will receive a certificate and be expected to buy a case of beer.

Join the very tight friendship that all skydivers have.

Sell your car, house, boat, and divorce your spouse so you can buy gear.

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CHAPTER 1 – PARACHUTING EQUIPMENT

THE STUDENT PARACHUTE SYSTEM

1. **Harness:** Adjustable webbing which secures the container and parachutes to the skydiver.
2. **Container:** Mounted to the harness, located on the skydivers back, holds the main and the reserve parachutes.
3. **Main Pilot Chute:** This deployment system consists of a small mesh parachute, approximately 30"-36" across. (75cm-90cm), that when thrown into the wind, will pull the pin and then the parachute from the main container. This pilot chute is located on the bottom right side of the container, usually with a leather 'hackey' handle. 'Bottom of Container' is known as BOC.
4. **Spring loaded pilot chute:** The pilot chute is a small parachute that is released when the reserve ripcord is pulled. It is responsible for deploying the reserve parachute.
5. **Main Parachute:** Located in the lower container and attached by the risers to the harness at the shoulders by a three ring release system (*figure 1 on page 7*). This parachute is rectangular in shape and is referred to as a ram air parachute
6. **Risers:** Webbing material that attaches the main and the reserve parachutes from the harness to the connector links. There is a front and rear riser on each side of the parachute.
7. **Connector Links:** Metal links that attach the suspension lines of the parachutes to the risers.
8. **Cutaway Handle:** This handle when pulled to full arms extension, jettisons the main parachute via the three-ring release. This handle is a soft pillow, located on the right side of the harness under the chest strap and is held in place by Velcro.
9. **R.S.L. (Reserve Static Line):** A back up device that connects the main parachute riser to the reserve parachute ripcord. When you pull your cutaway handle, as your main jettisons, the reserve pin will be pulled. This is a U.S.P.A. B.S.R. (Basic Safety Regulation) for student jumpers.
10. **Reserve Handle:** This handle, when pulled to full arms extension, activates the reserve parachute. This is a metal D-Ring style handle and is located on the left side on the harness under the chest strap. Velcro also holds it in place.
11. **Reserve Parachute:** Located in the upper container and is permanently attached to the harness. This parachute is also rectangular in shape and is also referred to as a ram air parachute.
12. **Steering Toggles (Brakes):** Soft, loop handles responsible for the steering and landing of each parachute. Velcro attaches the toggles to the rear risers.
13. **A.A.D. (Automatic Activation Device):** An electronic or mechanical device designed to activate the reserve parachute at a predetermined descent rate and altitude in an emergency situation. This is an electronic device and is subject to

failure and therefore is not to be depended upon. This is also a B.S.R. of the USPA for student jumpers. We use the "Cypres" AAD at Skydive City, which is very reliable and is all electronic, with no moving parts.

See Diagrams Following:

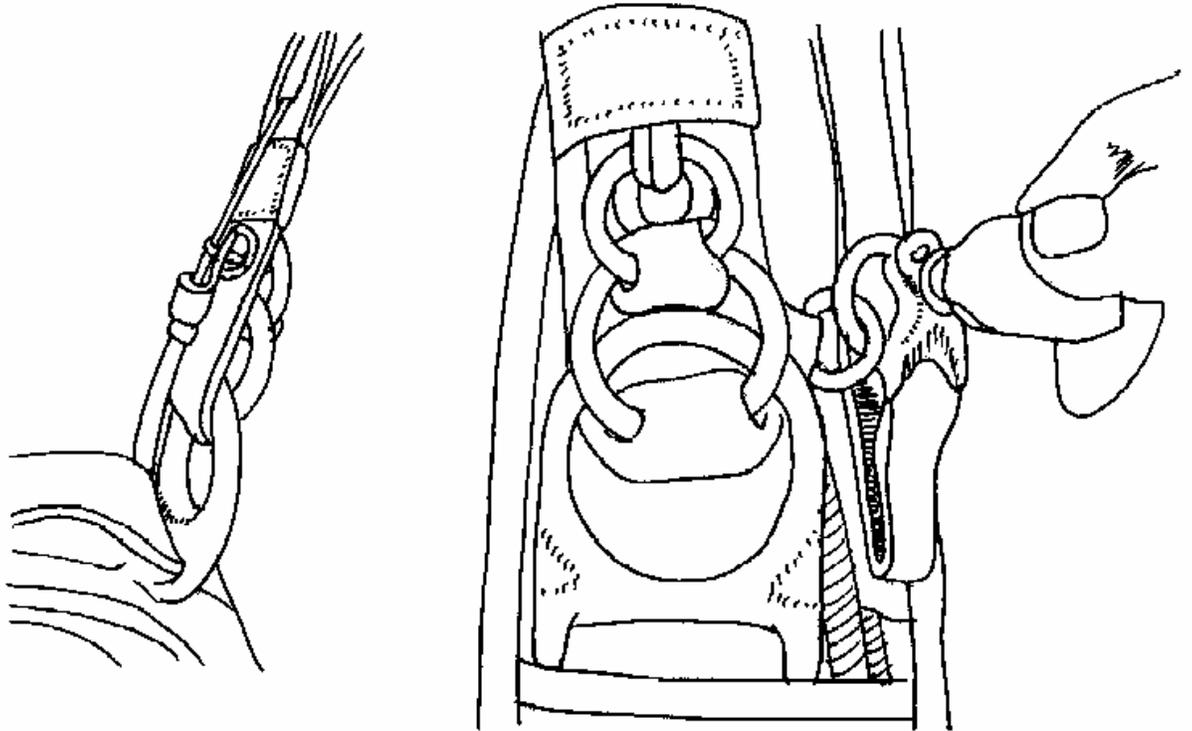


Figure 1 Three Ring Release

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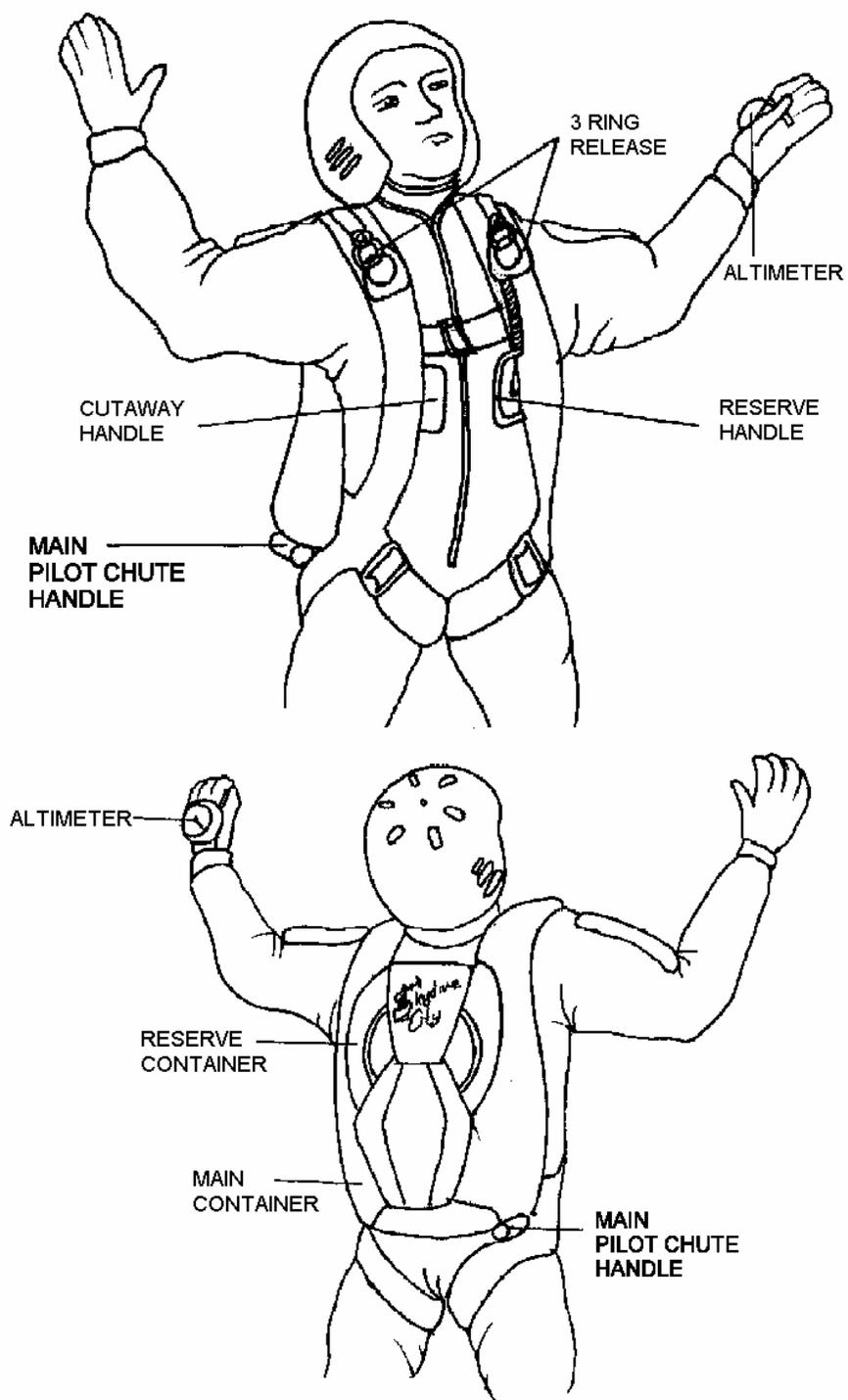


Figure 2 - Student Harness and Container System

OPERATION OF THE STUDENT HARNESS AND CONTAINER

The normal opening sequence of the main parachute is an organized and consistent event.

(Fig 3) The skydiver throws the main pilot chute into the relative wind, which pulls the main container pin from the main containers closing loop. The main container opens and the pilot chute pulls the main deployment bag, containing the main parachute from the main container.

The pilot chute brings the suspension lines to full line stretch. The deployment bag then opens, allowing the main parachute to be extracted from the bag, initiating inflation.

As it inflates the slider moves down the suspension lines until it reaches the connector links. Once the parachute is fully inflated, the jumper will release the brakes and perform a controllability check, then pilot the parachute back to a safe landing area here at the drop zone.

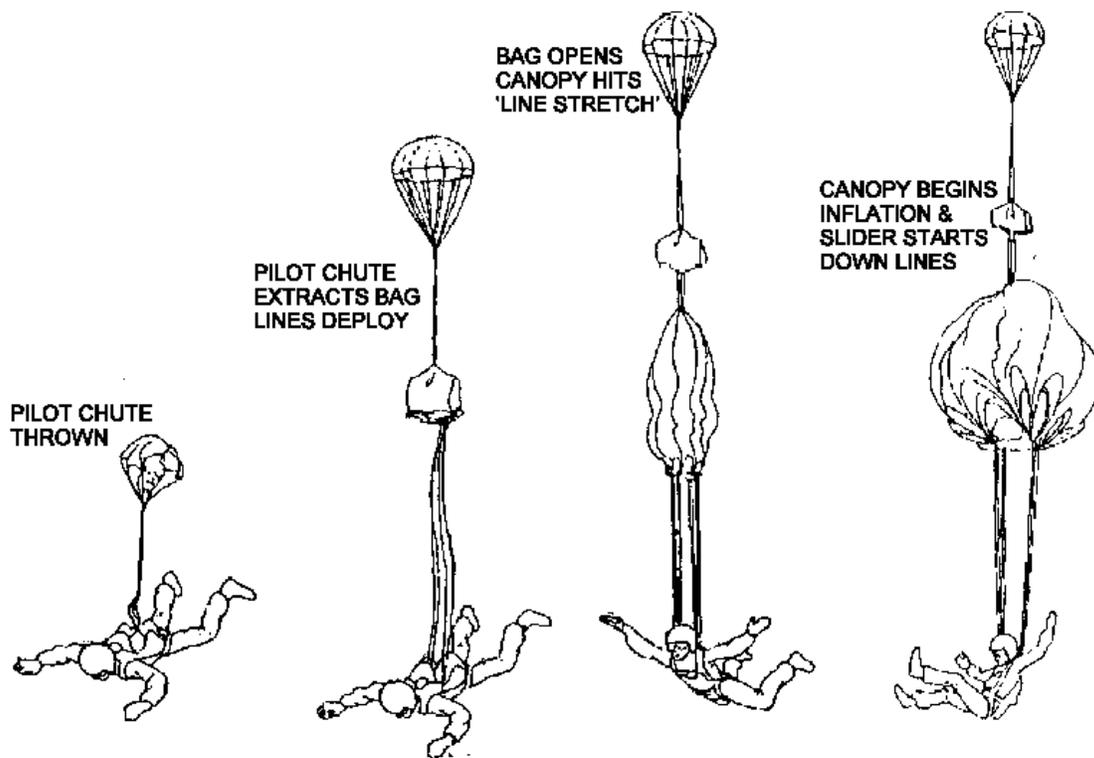


Figure 3 - Parachute Deployment Sequence

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CHAPTER 2 - AIRCRAFT PROCEDURES

The instructor will familiarize the student with the type of aircraft to be used for the skydive. There are many different types of aircraft used in skydiving and the procedure may vary.

STANDARD PROCEDURES:

1. Always receive a full gear check at the gear room and the boarding area.
2. Approach the aircraft from the rear to avoid the propellers.
3. Always remain with one or both of your jumpmasters while boarding the aircraft.
4. Use the ride to altitude to relax and mentally review the skydive. Ask the jumpmasters any questions that you have. Be sure to tell your jumpmasters the key altitudes.
5. Remain seated until directed by your jumpmasters to do otherwise.

GEAR PROTECTION (PREVENTION OF PREMATURE DEPLOYMENT)

1. Protect your handles at all times.
2. Keep movement to a minimum to avoid snagging any handles.
3. In the event of a parachute deployment in the aircraft, contain the parachute and do not let it escape.
4. If the parachute escapes out the door, follow it immediately, check the parachute and be prepared to initiate emergency parachute procedures.

AIRCRAFT EMERGENCY PROCEDURE

1. The student will wear a seatbelt and helmet during taxing and take-off until 1500 feet.
2. In the event of ANY aircraft emergency, the student will listen to the jumpmaster and do as instructed.
3. Emergency Landings: Helmet, seatbelt, and goggles on. Assume the hard landing position.
4. Emergency Exits: Depending on the jumpmasters' instructions, exit, using either the reserve or the main parachute.
 - Below 1000' Expect to land with the plane
 - 1000' – 2500' (Bail-Out), expect to leave the airplane using your reserve parachute
 - 2500' – 5000', expect to leave the airplane using your main parachute
 - Above 5000 feet expect to exit as planned for your AFF jump.

CHAPTER 3 - CLIMBOUT AND EXIT PROCEDURES

TWIN OTTER (LEFT SIDE DOOR)

1. Left side jumpmasters checks the spot and asks the student "are you ready to skydive?" Then climbs out and gets into position to receive student.
2. Student gets and maintains eye contact with right side jumpmaster who tells the student to get into the door.
3. Student steps into position in the door and begins HOTEL CHECK.

ACTUAL EXIT

The Exit actually begins with the student doing the HOTEL CHECK. At this point the student is in command of the skydive. By doing the HOTEL CHECK you are checking to make sure that both your jumpmasters are ready to make the exit with you.

HOTEL CHECK

1. CHECK IN!!! Check with the jumpmaster on your right side, DO NOT LOOK AWAY until you have received an O.K.
2. CHECK OUT!!! Check with the jumpmaster on your left side, DO NOT LOOK AWAY until you have received an O.K.
3. Now you and your jumpmasters are ready to start your exit count. This is done with distinct body movements and loud commands to insure that all jumpers exit as one.
4. READY (Head high, looking forward) SET (Move body inwards slightly) GO (Step out of airplane and IMMEDIATELY ARCH)

CHAPTER 4 – BODY POSITION/ ARCH = STABILITY (THE BOX POSITION)

From the very first moment of the exit until the end of your freefall it is your responsibility to ARCH. This basic, stable, body position is known as the BOX Position.

A good arch will always eventually result in a good, stable, face to earth body position and will help you recover from any unusual attitudes or instability.

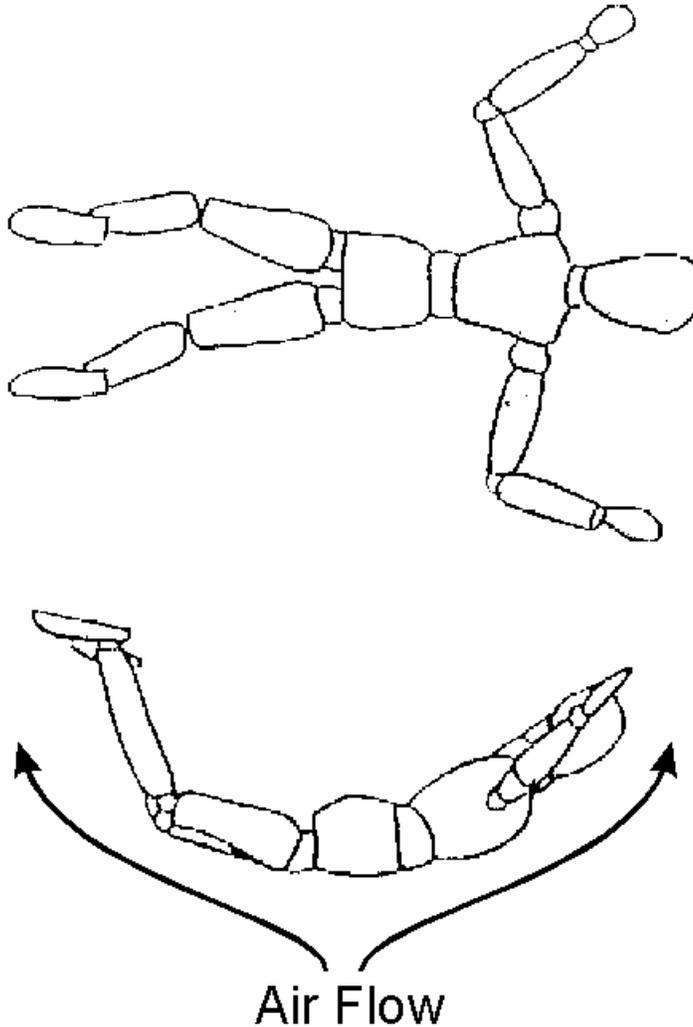


Figure 4 - ARCH (BOX POSITION) Stable Freefall

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CHAPTER 5 – THE LEVEL ONE SKYDIVE

For the first few seconds after exit, the student should WATCH THE AIRCRAFT!!!! This helps the student maintain a good body position during the initial transition from a vertical attitude to a horizontal one.

1. CIRCLE OF AWARENESS:

- A. Look at your heading on the horizon out at a 45 degree angle (orientation and heading awareness)
- B. Look at altimeter (Altitude Awareness)
- C. Look at the left side Jumpmaster. Under your arm they will give any appropriate corrections for body position improvement followed by an O.K. (thumbs up) when you have responded. Do not look away from the jumpmaster until the O.K. signal has been given to you.
- D. Look at the right side jumpmaster and do the same as (C) above

2. Practice Pulls (PP's)

- A. The student performs 3 practice throws of the pilot chute using the sequence ARCH, REACH, LOCATE, and THROW, then back to relaxed arch.
- B. Maintaining a good arch place your right hand on the pilot chute handle (bottom right side of container) while bringing your left hand, palm down, above your head.
- C. Recover back to a neutral body position.
- D. Check over your right shoulder to insure pilot chute launch.

3. 2ND CIRCLE OF AWARENESS (*Refer to 1*)

4. SHORT CIRCLE OF AWARENESS (HEADING AND ALTITUDE AWARENESS) Look at your heading and your altimeter every 5-6 seconds, then glancing to the left and right JMs until you have reached 6000 feet.

5. PREPARING TO PULL

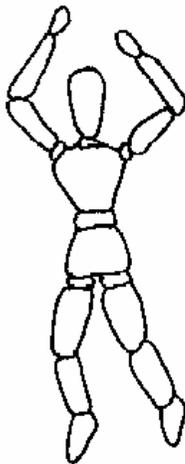
- A. Lock on to your altimeter at 6000 feet watching it move until it reaches 5000 feet (approx. 5 seconds).
- B. At 5000 feet wave off two times with both arms crossing over your head two times smoothly, followed by the pull (4500 feet is your targeted pull altitude)

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6. PULL SEQUENCE

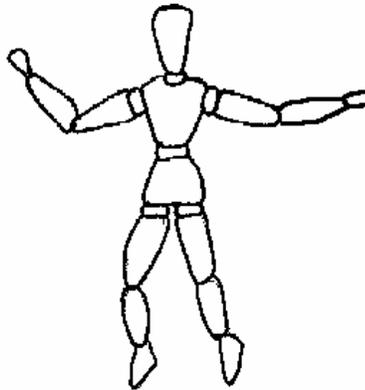
- A. The student initiates the pull with a wave off 2 times maintaining a good arch.
- B. The student then reaches to the right side bottom of the container grasping the pilot chute handle while simultaneously bringing his left hand above his head, palm down.
- C. The student then pulls the pilot chute, rolling the hand backwards, and throwing it to the right at full arms extension while bringing his left hand back to a neutral position.
- D. The student then looks over his right shoulder to observe the pilot chute launch, counting to three by thousands and check for main parachute deployment.



**WAVE OFF 2 TIMES
MAINTAINING ARCH**



**REACH FOR
PILOT CHUTE**



**THROW PILOT CHUTE AT
FULL ARM'S LENGTH**



**CHECK OVER RIGHT
SHOULDER FOR GOOD
PILOT CHUTE LAUNCH**

The student and the instructor will practice the sequence and all procedures prior to the skydive, until it is consistent and smooth.

7. EXIT PROBLEMS

1. Tumbling on exit or during the skydive during ARCH!!!!
2. Loss of one jumpmaster during the skydive--- Continue with remaining JM.
3. Loss of both jumpmasters during the skydive—ARCH, REACH, PULL, CHECK.
4. Unstable during pull time – PULL ANYWAY!

CHAPTER 6 - FREEFALL HAND SIGNALS

During the freefall portion of the skydive, verbal communication is not possible. Freefall communication is done through the use of hand signals by the jumpmaster(s). These signals may be given throughout the skydive as necessary.

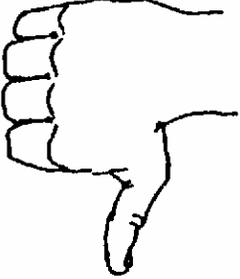
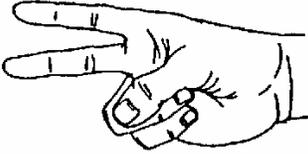
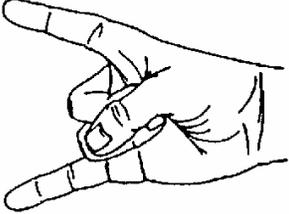
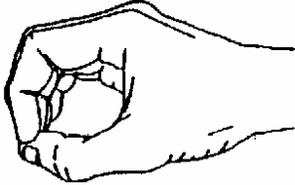
 <p style="text-align: center;">Pelvis Down</p>	 <p style="text-align: center;">Legs Out (more than they are now)</p>	 <p style="text-align: center;">Bend Legs at Knee (More than they are now)</p>
 <p style="text-align: center;">Check Arm Position (Usually we will simply move your arm)</p>	 <p style="text-align: center;">PULL IMMEDIATELY!</p>	 <p style="text-align: center;">Circle of Awareness (or Check Altitude)</p>
 <p>Shake at Harness means WAKEUP, check altitude, take appropriate action</p>	<p>Other signals may include;</p> <p>Pinching or tapping thumb and finger together – means Toe Taps, usually due to feet out of symmetry. Tap toes together, spread them shoulder width apart and arch with pelvis.</p>	<p>OR</p> <p>Light shake at the wrist, means RELAX.....</p> <p>Sometimes we do the same signal by lightly waving our hand in front of your face</p> <p>Much communication takes place just with eye contact with your instructor!</p>

Figure 5 - AFF Hand Signals
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CHAPTER 7 - PARACHUTE MALFUNCTION PROCEDURES

A videotape of parachute malfunctions or photographs of malfunctions can be shown and reviewed by the student and the instructor to assist in the proper identification of the various types of malfunctions. Malfunctions are broken down into two major categories – total and partial.

TOTAL: Pack closure (NOTHING PULLED, NOTHING DEPLOYED) - This type of malfunction is high speed and altitude is lost very quickly.

- A. After two attempts at locating or two attempts at pulling the main pilot chute become unsuccessful.
- B. Maintain a good arch, look and locate both handles, placing your right hand on your cutaway handle and your left hand on your reserve handle, putting your thumb through the handle.
- C. Peel and pull the cutaway handle out and down to full arms extension and then let it go
- D. Bring your right hand to meet your left hand on the reserve ripcord, grasping it firmly, pull to full arms extension. Then arching, check for deployment.
- E. Grasp steering toggles, release brakes and pilot canopy to the landing area.

PARTIAL: Main pilot chute has been deployed and you have anything less than a good, controllable and landable parachute to land under. This type of malfunction can be low speed or high speed. Either way, altitude is still lost at a less than desirable rate.

- A. Look and locate both handles, placing your right hand on your cutaway handle and your left hand on your reserve handle, putting your thumb through the handle.
- B. Peel and pull the cutaway handle out and down to full arms extension and then let it go.
- C. Bring your right hand to meet your left hand on the reserve ripcord, grasping it firmly, pull to full arms extension. Then arching, check for deployment.
- D. Grasp steering toggles, release brakes and pilot canopy to the landing area.

DECISION ALTITUDE IS 2500 FEET!

What this means is that you should make a decision to keep or cutaway your main parachute by 2500'. If you are not sure, then you may be better to cutaway that find out later on that you actually have some sort of malfunction.

Cutting away too low can KILL YOU! Your reserve parachute may not have time to deploy fully prior to impact.

THE STUDENT IN A TRAINING ENVIRONMENT SHOULD PRACTICE ALL MALFUNCTION PROCEDURES UNTIL THEY ARE PERFORMED IN A SMOOTH, EXACT AND TIMELY MANNER. PRACTICE REGULARLY!!

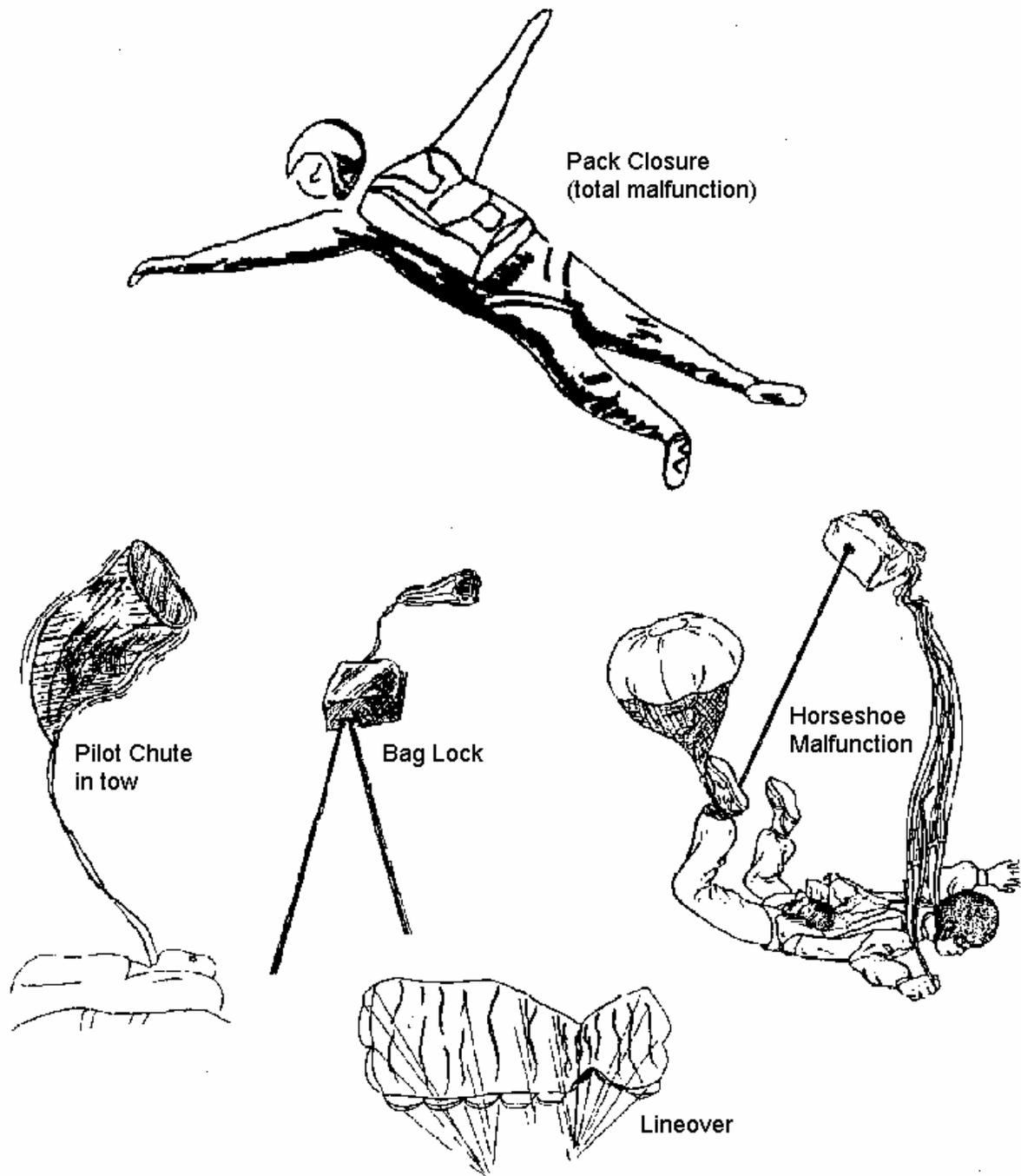


Figure 6 - Examples of Total and Partial Malfunctions

UNUSUAL PARACHUTE SITUATIONS

Sometimes we encounter a parachute deployment with a problem that we can usually fix, that does not need to be cutaway, as long as the parachute passes a controllability check.

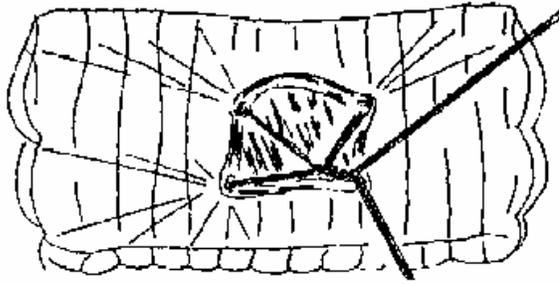
1. **LINE TWIST:** Twisted suspension lines. Do not attempt to release the brakes in this situation. Spread the risers and kick your feet to help the twists clear. Once clear, control check.
2. **CLOSED END CELLS, SLIDER UP:** Pump the brakes from shoulder to hips two or three times smoothly. This will help the parachute pressurize better, inflating the end cells and bringing the slider all the way down to the top of the risers.
3. **PILOT CHUTE OVER THE NOSE:** Perform a canopy control check. If controllable, pilot the canopy back to the landing area. Radical maneuvers with this situation are not recommended.
4. **PREMATURE BRAKE RELEASE:** If one of your brakes were to release upon opening, the canopy will most likely open in a slow turn. Reach up and grasp your toggles, pull them to half brakes, and then raise to full flight. The parachute should straighten out and fly straight.
5. **BROKEN STEERING LINE:** Do a canopy control check using the rear risers. Flare the parachute upon landing using the rear risers, performing a good PLF. (Recommended only if arm strength permits you to do this – can be very tiring. Steer only when necessary and save your strength for the flare)
6. **TORN FABRIC:** Rips and holes are a problem if large enough to render the canopy uncontrollable. Perform a canopy control check to determine if this parachute is landable.
7. **BOTH PARACHUTES OUT:** Usually both parachutes out will inflate. If they are flying side by side and are not entangled, cutaway main and land reserve at the landing area. If they are entangled, do not release the brakes and fly both parachutes using rear risers to control the situation. Be prepared for a PLF.

DECISION ALTITUDE IS 2500 FEET!

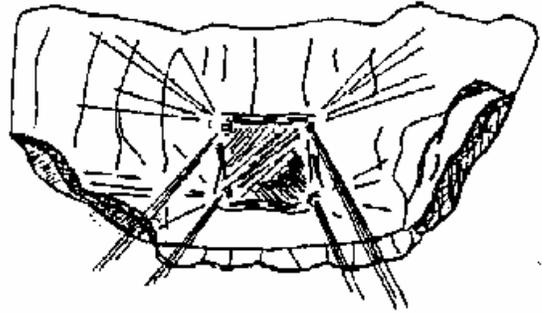
BY 2500 FEET THE STUDENT SHOULD HAVE THE PARACHUTE OVER THEIR HEAD THAT THEY INTEND TO LAND. WHEN IN DOUBT, WHIP IT OUT!!

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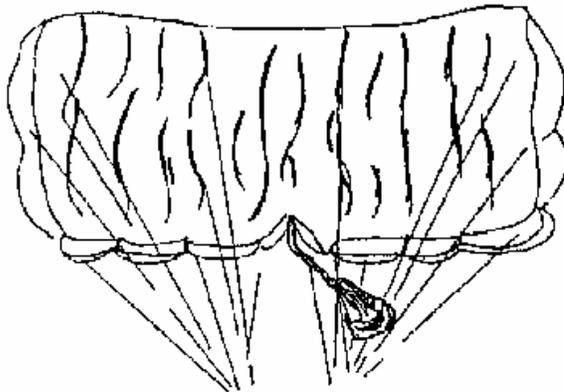
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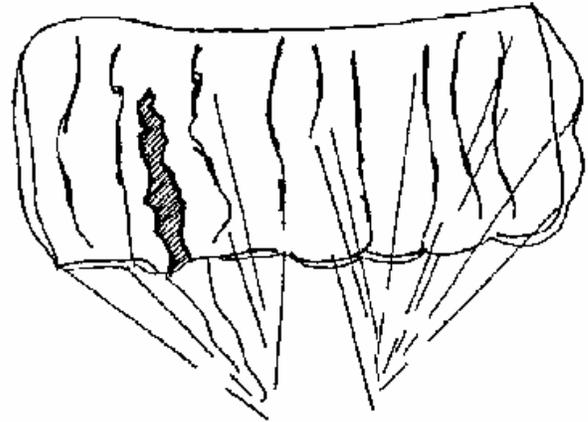
Line Twists (Kick them out)



Collapsed End Cells and Slider Hang-up (Flare to help clear this)



Pilot Chute Over Nose



Torn or damaged Canopy

Figure 7 - Examples of Unusual Parachute Openings
(Not All Are Malfunctions)

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CHAPTER 8 – CANOPY CONTROL

Once your canopy is open you must take these actions to insure safe canopy control procedures.

1. **VISUALLY CHECK CANOPY** – Is it open, rectangular in shape, and is it controllable (landable)? Is it damaged (rips, tears, or broken lines)?
2. **CHECK AIRSPACE** – Avoid collisions with others. Everyone is to turn to the right to avoid head on collisions. Low canopy has the right of way.
3. **GRASP STEERING TOGGLES AND PULL TO RELEASE BRAKES** – The toggles are stowed in a half-brake configuration to keep the parachute from surging forward at full speed upon deployment.
4. **COMPLETE A CANOPY CONTROL CHECK**
 - A. Turn parachute 90-180 degrees to the right and then left.
 - B. Flare parachute to 100% brakes for 2 seconds and raise toggles to full flight.
 - C. If the parachute passes these tests it should be landable. You make the final decision.
5. **LOCATE THE AIRPORT AND YOUR JUMPMASTERS** – Orient yourself to your landing area and determine the direction and path of descent to arrive at the landing area. Your jumpmasters and other parachutes are a good visual reference (follow them) as a backup to your training. Aerial photos will be viewed prior to jumping to verify references and landmarks. Locate the windsock, wind blades, flags, or even smoke from nearby industry to help determine wind direction.
6. **LISTEN TO THE RADIO** – Radios are electronic devices which can fail. Listen to any instruction from the radio. If the radio does not work, remember and perform what you were taught in the classroom.

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CANOPY CONTROL DEFINITIONS

1. **WIND LINE:** An imaginary line that runs from a point directly upwind through the center of the target. Understanding of this concept and how to stay on it, will help you land in the target area.
2. **EXIT POINT:** The area over the ground that the skydiver exits the aircraft.
3. **HOLDING AREA:** Upwind of the target on the wind line. This is an excellent place to "play" with the parachute, learn its flight characteristics and from which to begin the downwind, base leg, and final approach to the landing area.
4. **HOLDING:** This is when you are faced into the wind. Generally will slow down your ground speed.
5. **RUNNING:** This is when you are flying the parachute with the wind at your back, giving you the greatest forward speed.
6. **CRABBING:** This is when you are flying your parachute across the wind line, moving forward and sideways at the same time.
7. **GROUND SPEED:** The speed at which the parachute moves across the ground while in flight.
8. **AIR SPEED:** The speed at which the parachute is flying through the air.
9. **HALF BRAKES TURNS:** Steering toggles pulled down equally to chest height, then initiating any turns from this position.
10. **DEEP BRAKES TURNS:** Steering toggles pulled down equally to your hips, then making any turns from this position.

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LANDING PATTERN

The recommended landing pattern is similar to that of standard aircraft. It consists of a **downwind** approach, a **base leg**, and a **final upwind approach** to the landing area. Before you make your skydive, look at the aerial photograph of the drop zone and surrounding areas, selecting designated points to coincide with the above pattern.

1. **DOWNWIND APPROACH:** Flown along the wind line starting at approximately 1000 feet. Fly downwind past the target about 250-500 feet (depending on the current wind conditions) to one side keeping the target in sight.
2. **BASE LEG:** At this point you are about 500 feet downwind of your target at an altitude of approximately 500 feet. Execute a 90 degree turn in toward the target and fly until you are parallel with the target. When you are even with the target, turn 90 degrees to face the target at an altitude somewhere between 250-300 feet.
3. **FINAL APPROACH:** On final approach, descent and glide are controlled through proper braking technique in order for the student to land in the chosen landing area. Once on final approach, the proper angle should be determined so that any major changes can be made with sufficient altitude and distance to the target. Excess altitude can be relieved by making slow, half-braked "S-Turns" and flying in deep brakes in the base leg and upper final approach, allowing enough altitude for full flight and a flare.

CAUTION!!!! AT NO TIME SHALL YOU MAKE SHARP TURNS ON FINAL APPROACH OR ATTEMPT TO SALVAGE A DOWNWIND LANDING WHEN TOO LOW TO DO SO. SHARP TURNS RESULT IN VERY RAPID ALTITUDE LOSS, WHICH COULD RESULT IN SERIOUS INJURY OR DEATH!!!!

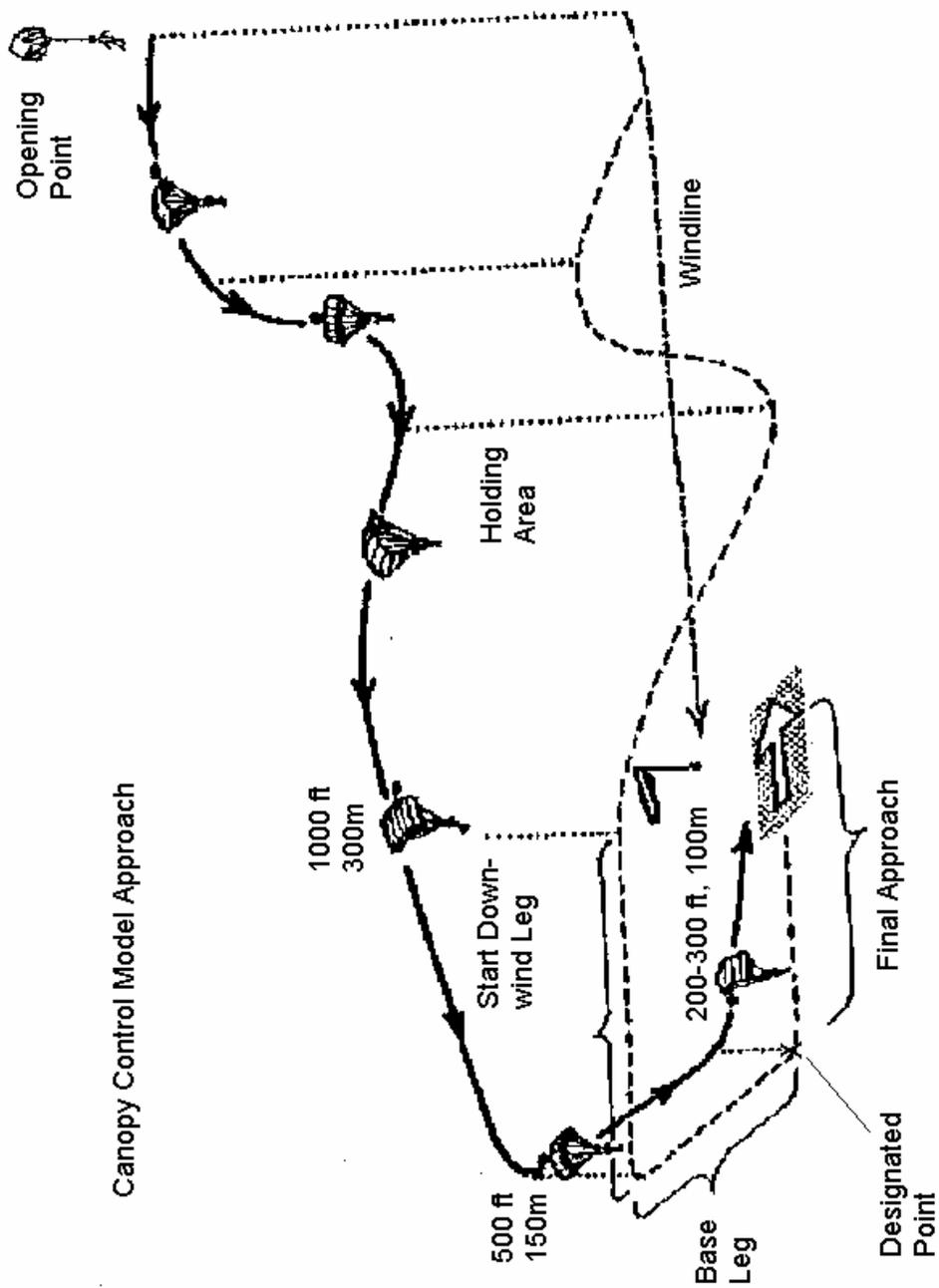


Figure 8 - Example of Typical Canopy Control Pattern and Approach

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CHAPTER 9 – LANDINGS

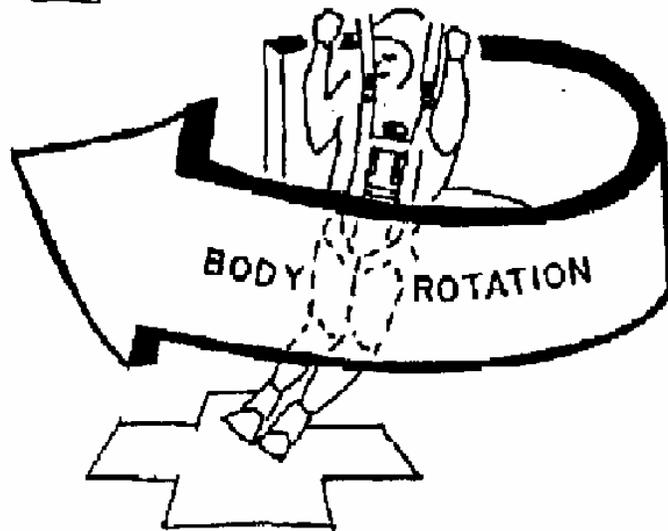
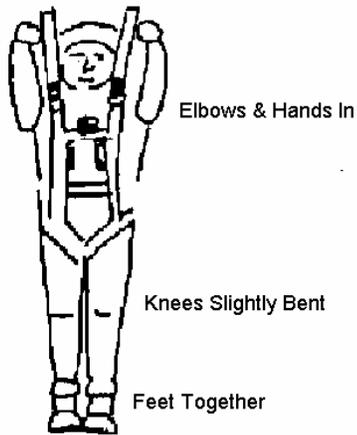
The time for a safe landing has arrived. You have been through a controlled freefall and a controlled flight to the landing area, but until you have landed safely, your skydive is not over.

LANDING:

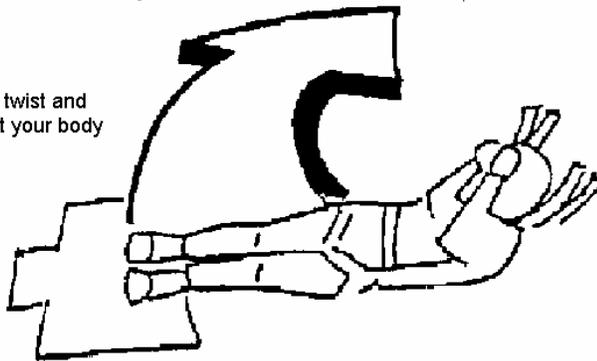
1. **FINAL APPROACH:** Face into the wind except for minor corrections to avoid obstacles.
2. **PREPARE TO LAND:** Feet and knees together with your knees slightly bend.
3. **TOGGLES:** Up and eyes looking out at a 45-degree angle in front of you.
4. **FLARE FLARE FLARE:** The flare is performed as a three-stage move, resulting in a smooth, controlled landing.
 - A. From full flight bring both steering toggles down to shoulder height (STAGE 1)
 - B. From STAGE 1 bring toggles down to chest height (STAGE 2). This is the most critical stage of the flare. This is the point at which you will decide to continue with the flare or to remain at this point until you are ready for STAGE 3.
 - C. STAGE 3 is the final stage of the flare. At this point, you may need to bring your toggles all the way down to full arms extension, bringing the parachute to a full stop to coincide with touchdown.
5. **PREPARE TO PLF:** A PLF (Parachute Landing Fall) is the best way to distribute the landing forces to avoid injury. The feet and knees held tightly together with the knees slightly bent. The thigh muscle tensed and toes pointed down. The PLF's points of contact are:
 - A. The balls of your feet.
 - B. The calf muscle.
 - C. The thigh muscle.
 - D. The buttocks.
 - E. The upper back.

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As you land, twist and roll to protect your body and limbs



A Good PLF can make the worst of landings a very safe one

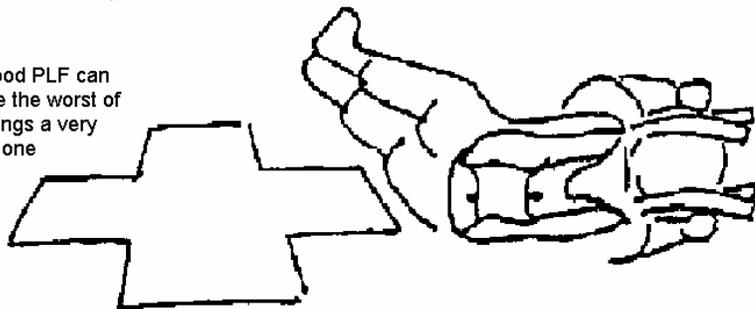


Figure 9 - Example of a Parachute Landing Fall

HIGH WINDS (10-14 mph)

Avoid being dragged by your parachute. When you are on the ground, release one steering toggle (brake) and reel the other in hand over hand. This will bring the tail (trailing edge) toward you, collapsing the parachute. If being dragged, roll onto your back and reel in one steering toggle until the parachute collapses. After collapsed, get up and run around behind the parachute to keep it from inflating.

RECOVERING YOUR GEAR

Gather the parachute up neatly and do not let it drag along the ground.

1. Gather suspension lines like a garden hose, moving toward the canopy.
2. When you reach the canopy, pick up the deployment bag and pilot chute.
3. Lift everything over your shoulder and head for the packing area.
4. Be sure to place your gear out of the sun while it waits to be packed.

CHAPTER 10 – HAZARDOUS LANDINGS

The severity of hazardous landings can be lessened if you follow the basic steps outlined for each of the major hazards. In virtually every circumstance, any obstacle or hazard can be avoided, using these simple rules.

LOOK AWAY – STEER AWAY!!! It is preferable to land crosswind or even downwind rather than make a hazardous landing into the wind. You must make your decision early if you plan to make anything other than an upwind landing. You want enough altitude to make safe turns on the final approach. **NEVER MAKE RADICAL TURNS ON FINAL APPROACH TO AVOID AN OBSTACLE. YOU SHOULD KNOW WHERE YOU ARE GOING TO LAND AT YOUR 1000 FOOT DESIGNATED POINT.**

1. TREE LANDINGS:

- A. Face into the wind and come to half-brakes to slow the parachute down. Aim for the meat of the tree.
- B. Feet and knees together helps preventing groin injuries.
- C. Elbows in and protect your face and neck with your forearms, toggles still in hand.
- D. Prepare for a good PLF, should you make it to the ground.
- E. If suspended in the tree, do not move and do not cutaway. If possible, make your way to the trunk, secure yourself and wait for help.

2. WATER LANDINGS:

- A. Face into the wind.
- B. Disconnect the RSL and unfasten your chest strap.
- C. Bring steering toggles to half-brakes and bring feet and knees together.
- D. **DO NOT CUTAWAY ABOVE THE WATER!!!**
- E. Take a deep breath and prepare for a PLF, because it is hard to judge water depth.
- F. Perform a full flare once your feet touch the water.
- G. Once in the water, slide the harness off your shoulders, and out of the leg straps, and swim to shore.
- H. If the parachute lands on top of you, **DO NOT PANIC.** Find a line, follow it to a seam and follow it until you come to the edge of the parachute.

3. WIRE LANDINGS: AVOID AT ALL COSTS!!!!

- A. Try to avoid wires by flying parallel to the lines
- B. Throw away any ripcords.
- C. Fly parallel to the wires regardless of wind direction
- D. Bring toggles to half-brakes and bring feet and knees together to avoid straddling the wires.
- E. Bring elbows in and stay "skinny."
- F. Use your feet to deflect off any poles.
- G. Prepare to PLF.
- H. If you come to rest on the ground with your main parachute hung up in the wires, cutaway and move away carefully (avoiding any possible broken wires). If you

- are under your reserve, get out of the harness slowly and carefully.
- I. If suspended, do not move or attempt to reach the ground. Wait for your jumpmasters or any representative of the local power company to assist you.

4. OTHER OBSTACLES:

- A. Buildings
- B. Vehicles
- C. Fences
- D. Anything other than a clear, unobstructed area.

In all of these cases, be prepared for a good PLF, even multiple PLF's until you are safe on the ground. A good PLF can turn a dangerous landing into a safe one.

STEER TO AVOID ALL OBSTACLES UP HIGH. DO NOT FLY OVER ANYTHING YOU DO NOT WANT TO LAND ON BELOW 200 FEET!!

Also remember that good planning of your route back to the dropzone will prevent most or all obstacle and hazardous landings. THINK, PLAN, EXECUTE from the moment your parachute is open and flying normally.

Remember that you are most responsible for your own safety. If you do not feel comfortable with your abilities, please review your training and talk with our staff before proceeding.

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Summary of Changes and Credits

11/21/96 – This manual was completely revamped by some great staff at Skydive City (namely Mike Hoogsteden), edited by TK and everyone else that got to put in their two cents worth.

Changes were prevalent throughout the manual, mostly updates to the equipment section(s), since we now have Javelin containers.

Thanks to Marcus Price for the new artwork, and TK for his patience with Mike.

1/19/97 – TK finally got the page numbering to work right, but had to change the appearance of some of the headers. No sweat, going to the printers....

1/24/97 – Almost went to printers but thanks to Tony Hathaway some additions were made to canopy control definitions, landings and a few typo errors. Now it's off to the printers.

1/26/97 – Final touches from Eddie and Tony, and we think we got it!

11/14/97 – AFF Student Guide file was lost from the computer. The file was recreated, section about Tailgate Exits was removed, cover redone.

7/17/98 – Rewritten for conversion to throw-out pilot chute systems. All references to main ripcords removed and reworded.

3/31/2000 – Removed some references to 5500 signals, removed references to training harness, tidied up language related to Canopy Control, Decision Altitude, and Hazardous Landings.

5/17/2001 – Touched up program manual, cleaned up grammar, generalized references to type of student gear.

9/2/2001 – Clarified some language to better reflect what we actually teach. Emergency procedures and Water Landings