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# USPA SAFETY DAY GUIDELINES AND PROCEDURES

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## A. INTRODUCTION, BACKGROUND, AND PURPOSE

1. USPA Safety Day is scheduled each year on the second weekend in March for all jumpers to meet at their local drop zones—
  - a. to review and practice safety procedures
  - b. to inspect and discuss their equipment
  - c. to socialize
2. USPA Safety Day was conceived in 1996 by Patti Chernis and was first conducted in March 1997.

## B. SCOPE

1. An effective USPA Safety Day format includes
  - a. equipment
    - (1) pre-jump checks
    - (2) maintenance and compatibility inspection
    - (3) update and service bulletin advisory (provided by the FAA)
  - b. freefall safety
    - (1) exit order
    - (2) group separation
    - (3) collision avoidance
    - (4) break-off and tracking procedures
  - c. hands-on practice sessions in a training harness for parachuting emergencies
    - (1) malfunction and reserve procedures
    - (2) obstacle landings
  - d. canopy flight
    - (1) training and review of canopy flight procedures
    - (2) local descent and landing pattern protocol
  - e. aircraft
    - (1) routine procedures
    - (2) review of aircraft emergency procedures
    - (3) discussion of spotting, including exit order and group separation
  - f. a review of all related rules
2. Time after Safety Day activities should be reserved for social interaction.

## C. EQUIPMENT

1. An FAA rigger should conduct this section.
2. Pre-jump equipment inspection
  - a. It is essential that jumpers know what to look for when they are doing gear checks on their own gear as well as other jumper's equipment
  - b. Show a standard gear check, using top to bottom, front to back or vice-versa as a method to make sure all areas of the rig are checked.
3. Maintenance and compatibility inspection

- a. After the standard gear check is covered, go over the wear points that need to be inspected thoroughly and frequently:
    - (1) pilot chute pouch
    - (2) bridle kill line and velcro
    - (3) main pin attachment to bridle
    - (4) pilot chute handle and attachment structure
    - (5) main bag general condition and stitching
    - (6) main bag grommets and line stow bands
    - (7) main canopy, bridle attachment point, and suspension lines
    - (8) high-wear areas of outer lines, steering lines, canopy line attachment points, and attachment at links
    - (9) main canopy risers and brake system
    - (10) three-ring release system condition
      - (i) updates on soft housings
      - (ii) cable end protector tubes
      - (iii) stress points at grommet
    - (11) cutaway handle and cable condition, including cable kinks at retainer loop indicating overload
    - (12) RSL
    - (13) riser covers and velcro or stiffeners
    - (14) main closing loop condition and length
    - (15) container grommets fully seated and cable movement
    - (16) reserve packing data card properly filled out
    - (17) reserve sealed with correct seal
    - (18) reserve ripcord pin fully seated
    - (19) reserve ripcord handle secure
    - (20) harness condition, both webbing and stitching
    - (21) leg strap and chest strap elastic keeper condition
    - (22) metal hardware
      - (i) not corroded
      - (ii) no worn or sharp edges on the friction adapters
      - (iii) condition of springs and clasps, if used
  - b. discussion of any updates or procedures developed during the previous year
4. Packing review
  5. Review and discussion of rules and recommendations regarding equipment
    - a. FARs
    - b. BSRs and USPA recommendations
    - c. manufacturers requirements, e.g., AADs, and recommendations
    - d. cameras (SIM Section 6-8)

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- e. wingsuits (SIM Section 6-9)
- f. toys—tubes, skyboards, rafts etc.

**D. FREEFALL SAFETY**

1. A USPA Instructor should teach this section.
2. Freefall safety is everyone's responsibility.
3. Exit order should be based on the type and size of groups, when the aircraft is flown into the wind for jump run.
  - a. Slower falling groups first, large to small
  - b. Faster falling groups next, large to small
  - c. Freefall students
  - d. Tandem students
  - e. Wingsuit fliers (or they may exit first in some situations) and canopy pilots who are pulling at altitudes of 5,000 feet and above.
4. Adequate horizontal separation between each group
  - a. Provide at least 1,000 feet of ground separation between individuals jumping solo.
  - b. Provide at least 1,500 feet of ground separation between small groups, adding more as the size of the groups increases.
  - c. The exit time between groups should increase as the upper wind speeds increase and is determined by the distance covered over the ground on jump run.
5. Awareness of the location of each jumper within the group
  - a. Maintain visual contact with the other jumpers in the formation to reduce the chance of an inadvertent collision.
  - b. Use proper docking techniques to help reduce the chance of a hard collision from excessive horizontal speeds.
  - c. Maintain the same fall rate as other jumpers in the group to reduce the chance of a hard collision from excessive vertical speeds.
6. Break-off and tracking procedures
  - a. Each skydive should include a plan for break-off, separation, deployment altitude and a canopy descent.
  - b. Break-off should begin with enough altitude for each jumper to gain adequate separation and begin deployment at the planned altitude.
    - (1.) For groups of five or fewer, at least 1,500 feet higher than the highest planned deployment altitude in the group (not including one camera flyer).
    - (2.) For groups of six or more, at least 2,000 feet higher than the highest planned deployment altitude in the group (not including a signaling deployment or camera flyers).
    - (3.) Higher break off and deployment is recommended for the following:
      - (i) Groups with one or more jumpers of lower experience.
      - (ii) Jumpers with slower-opening or faster-flying canopies.

- (iii) Jumpers engaging in freefall activities that involve a fall rate faster than belly to earth terminal velocity.
    - (iv) Jumps involving special equipment, (props, toys, signs, banners, smoke, flags, hoops, tubes, items released in freefall, etc.).
    - (v) Jumps taking place over an unfamiliar landing area or in case of an off-field landing (bad spot recognized in freefall).
    - (vi) Other special considerations.
  - c. At break off signal or approaching break off altitude, each participant should—
    - (1) turn 180 degrees from the center of the formation.
    - (2) flat track away to the planned deployment altitude (flat tracking will achieve more separation than diving).
7. Opening Procedures
  - a. The pull should be preceded by a distinct wave-off to signal jumpers who may be above.
  - b. During the wave-off, one should look down and to the sides to ensure that the area is clear.
  - c. The low person has the right-of-way, both in freefall and under canopy.
8. Additional Freefall Safety
  - a. Read through Section 6-1 of the Skydiver's Information Manual regarding group freefall recommendations.
  - b. Read through SIM Section 6-2 regarding freestyle, freestyle and skysurfing recommendations.

**E. PARACHUTING EMERGENCIES**

1. A USPA Instructor should teach this section, preferably following the equipment inspection and review (the gear review is a good section to lead into emergency procedures).
2. The cause of most emergency situations is improper packing or equipment maintenance.
3. Discussion of the various types of malfunctions and the appropriate response for each
4. Thorough review in the training harness, preferably suspended, using training aids such as malfunction photos and actually pulling handles.
  - a. If possible, have them use their own rig, substituting a separate reserve ripcord handle for the real one (closest simulation).
  - b. Once they have pulled their cutaway handle they can perform the recommended service on the three-ring release system.
  - c. Emergency procedures that should be covered include:
    - (1) total malfunction—nothing deployed
    - (2) pilot chute in tow—cut away and pull the reserve or just pull the reserve (always a subject of hot debate)

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- (3) bag lock—lines extend, but the bag remains around the canopy
- (4) other partial malfunction—canopy partially inflates
- (5) spinning malfunction—
  - (i) Make it a point to let the audience know the problems that have been encountered with hard cutaways due to twisted risers, high wing loadings or poorly maintained equipment.
  - (ii) Have two adults hang from the harness while the jumper releases the main risers to simulate a high riser release pressures of a spinning malfunction (take precautions for the safety of the jumpers and hangers-on).
- d. control system (brake release and steering) problems
- e. procedures for dual deployment and inflation
- f. obstacle landing procedures
- g. rules and recommendations regarding parachute emergencies
  - (1) deployment altitudes required according to license
  - (2) decide-and-act altitudes, according to license
  - (3) altitude at which to pull the reserve immediately, regardless of circumstances
  - (4) recommendations for flotation devices near water
  - (5) procedures for extraction from obstacle landings

## F. CANOPY CONTROL

1. A highly experienced canopy pilot, USPA Instructor, or canopy formation specialist should teach this section.
2. Use an aerial photo to discuss landing patterns, off-field landing options, and other factors that are unique to that location.
  - a. large bodies of water or forests
  - b. neighbors whose property should be avoided
  - c. alternate areas that may look like a viable option from under canopy, but would prove to be a poor choice, such as a field that is surrounded by power lines
3. Cover all of the canopy controls and the effects of each (SIM Section 4, Categories A-H, Canopy Flight):
  - a. Rear risers with brakes stowed for steering after opening close to another jumper.
  - b. Rear-riser turns and flares to determine whether riser control is a good option if a steering line is broken
  - c. Braked approaches
    - (1) to teach how to get a canopy into a small landing area
    - (2) to let the jumper know just how slowly his or her canopy can be flown prior to stall or backwards flight

- (3) to determine the glide and landing characteristics of a particular canopy in various degrees of braked flight
  - d. Rear riser and or brakes may flatten the glide on some canopies and allow the jumper to cover more distance after a long spot.
  - e. Braked turns result in the least loss of altitude when a low turn becomes necessary to avoid an obstacle or other hazard.
  - f. Front riser dives may reduce the effects of strong winds after a short spot or help a jumper descend to a less crowded area for a safer landing approach.
    - (1) Front riser turns performed at a high altitude will teach just how much altitude is lost in a front riser turn.
    - (2) At the very least, smaller jumpers jumping larger canopies need to know whether they have the strength to even make front riser maneuvers an option.
4. Collision avoidance and procedures for a canopy entanglement
  5. Drop zones must realize that canopy training and information is badly needed for all experience levels.
    - a. The fatality and injury reports show solid evidence that jumpers are buying and attempting to fly canopies that are simply faster than they can handle, given their current skill level.
    - b. This trend is not likely to reverse unless jumpers learn better canopy control at the beginning that they can apply throughout their progression to different canopies.
    - c. Review of SIM Section 6-10, "Advanced Canopy Flight" and the canopy dive flows in SIM Section 4, Categories A-H
  6. DZ rules
    - a. pattern protocol
    - b. no-fly, no-land, or special operation zones

## G. AIRCRAFT PROCEDURES

1. A jump pilot should teach this section.
2. Cover loading procedures that are specific to your DZ and general rules that apply to every DZ, like approaching a fixed wing aircraft from the rear and prop avoidance.
3. Weight and balance
  - a. Jumpers must understand the consequences when an engine fails on an overloaded aircraft.
  - b. Make sure the importance of maintaining the load within center of gravity limits during exit is covered and that each jumper is aware of the dangers of crowding the rear of the plane during exit.
3. Aircraft emergency procedures should be reviewed and each jumper should know the proper action for each aircraft emergency scenario.
  - a. This will help avoid confusion during an actual aircraft emergency.
  - b. Skydivers should be aware of their altitude during every plane ride to altitude, and keep in mind

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what they would do in the event of an emergency situation at any given moment.

4. Why everyone should be taking a look outside before they exit the plane.
  - a. look for aircraft and clouds below
  - b. establish sufficient distance between groups
  - c. check the spot
5. Review FAA rules regarding aircraft and skydiving.
  - a. seat belt use
    - (1) DZs seat belt release altitude
    - (2) seat belt stowage procedure
  - b. maintenance schedules and pilot rating requirements for commercial operations
  - c. VFR minimum visibility and cloud clearance requirements
  - d. ATC influence and radio use rules and considerations
  - e. pilot's responsibility for the outcome of the jump

#### **H. SOCIAL EVENT AND INCENTIVES**

1. Following the seminars, the drop zone should host a mixer or other social event to reacquaint jumpers and provide opportunities for further discussion of the day's events.
2. Successful programs to encourage Safety Day participation include raffles and bonuses for attending all portions.
  - a. Local riggers and instructors often participate by sponsoring incentives, such as discounts on instruction or rigging.
  - b. Drop zones can offer jump discount incentives for a future date.