

## **THINK & PRACTICE SURVIVAL!**

**LEARN IT – LINK IT- LIVE IT**

# **EMERGENCY BAILOUT PROCEDURES FOR PILOTS**

**(Revised January 2013)**

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### **I. Key Points To Take Away From This Presentation**

- A. Once your parachute is fully open (**2-3 seconds**), its rate of descent is as slow as it ever will be. Altitude loss will vary depending on the aircraft's attitude during exit.
- B. If you have a **ROUND** parachute (and most of you do), **NEVER** get confused and flare it on landing like a Skydiver's Rectangular parachute.
- C. Practicing your bailout procedures before and after each flight could reduce your egress time by as much as 50%.

### **II. Think Before You Fly. Are You Prepared To Bailout? Psychologists claim that only 10% of our decisions are based on FACT the other 90% are based on EMOTION.**

- A. Stress Can and Does Cause Accidents
- B. Stress may be caused by:
  - 1. Being Rushed
  - 2. Loss of Sleep/Fatigue
  - 3. Bad Weather
  - 4. Heat/Dehydration
  - 5. Job or Home-Related Problems
  - 6. Can You Think of Others?
- C. Stress Can and Does Cause You to Make:
  - 1. Poor Decisions
  - 2. Delayed Decisions
  - 3. Many Other Bad Judgment Calls

**REMEMBER: "THE OLDEST PILOTS KNOW WHEN NOT TO FLY"**

**THESE ARE A JUST FEW REASONS TO CONSIDER STAYING ON THE GROUND**

### **III. Mental Attitude**

- A. Attitude plays a major role in your survival.
  - 1. Keep a confident and positive attitude
  - 2. Know that you **can and will** bailout if necessary
- B. Believe that your parachute will save your life regardless of what others say
  - 1. Make the bailout decision early and quickly.
  - 2. **NEVER** give up!
    - a) What may not work the first time may work the second or third try.
  - 3. Remember your chute must be fully open in 3 seconds or less
  - 4. Altitude is your friend. Always have a hard deck where you will stop trying to fix the problem and bailout. Your insurance company now owns your aircraft.
    - a) Your parachute has low altitude capabilities, but you don't need to prove it

- C. Remember, **take offs** are **VOLUNTARY**, but **landings** (whether in your aircraft or under your parachute) are **MANDATORY**

**D. Practice – Practice – Practice**

1. Practice egress procedures before and after each flight
  - a) Practice Makes Proficient & Practice Makes Permanent
2. Remember: **Canopy/Door** (if you have one), **Belts** and **Butt – In That Order**
3. Build Excess Workload Capacity by Practicing
  - a) You will be able to: **THINK & WORK BETTER** under stress
  - b) You will **REMAIN DISCIPLINED** under stress

E. By Practicing we: **Learn it – Link it – Live it**

**IV. Plan Ahead (before you have an emergency)**

A. Keep your parachute in good condition

1. Have your parachute serviced regularly by a qualified rigger
  - a) They should be familiar with your type of parachute
  - b) If unsure, check their FAA license for the proper ratings
  - c) Make sure they have current factory packing manuals
  - d) Always pull your ripcord and take your chute out of the container
2. Store your parachute properly.
  - a) Keep in a cool, dry, dark place
  - b) Keep off the floor

B. Pre-Flight your parachute

1. Inspect carrying bag for stains etc. before removing chute
2. Check that ripcord pins are seated properly and not bent
3. Make sure the ripcord is secured properly in its pocket
4. Make sure nothing is obstructing the ripcord cable housing
5. Check harness, container, snaps and Velcro for damage, wear, and dirt

C. Practice your emergency procedures **each time** you fly

1. Practice prior to and after each flight
2. Don't just get in and out of your aircraft...**Practice – Practice – Practice**
  - a) By doing this you'll cut your egress time by 50% or more
  - b) Reaction time (muscle memory) is faster than thinking about what to do and then trying to figure out how to do it before running out of time and altitude.

**V. What Makes Similar Parachutes Different**

A. Line size and tensile strengths of 400 lbs., 550 lbs. and 600 lbs. are in common use

B. Line length determines inflated dimension of canopy. The longer the lines the better.

1. Generally speaking, the wider the inflated dimension the slower your descent

C. Types of material used in construction

1. 1.1oz. – approx. 60-90 (cfm) cubic feet per minute of airflow through material
2. Lo-Po (Low Porosity) – 30-40 cfm
3. F-111 – approx. 0-5 cfm

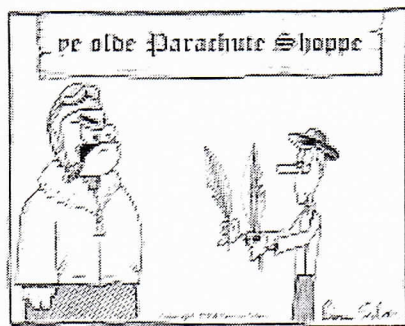
D. Canopy diameters of 22', 24' 26' and 28' are in common use today

## E. Manufacturer's speed and weight limitations

1. I recommend a minimum rating of 150 KIAS
2. Rated to carry a minimum of 220 lbs.
3. Rate of descent of 16 fps (feet per second) or slower
  - a) This includes your weight and all equipment

F. All parachutes are **not** created equal

1. This is why a smaller parachute may come down slower than a bigger one
2. Choose wisely and ask question when buying a parachute
  - a) How fast is my rate of descent with my weight and equipment?
  - b) What speed and weight is it placarded ?
  - c) Do not buy used parachutes without a rigger inspecting it first
  - d) Do I want a **round parachute** or a **ram-air**?



I need the smallest, cheapest parachute you've got!



## VI. Proper Fit and Adjustment of Your Parachute

A. Don your parachute properly. **This is extremely IMPORTANT.**

1. I recommend putting on your chest strap first (if you have one)
2. Leg straps and other adjustments
3. **You can fall out of or get seriously injured** from an improperly adjusted harness

B. To get out of your harness **always remove the chest strap first** (If you have one)

1. In high winds, if you undo your leg straps first, your harness may be stripped off you and the chest strap could choke you or injure your neck.

## VII. Major Reasons to Leave Your Aircraft.

- A. Severe control problems
- B. Structural failure
- C. Fire
- D. Mid-Air collision

## VIII. When You Make the Decision to Bailout - Canopy/Door, Belts &amp; Butt

## A. Canopy/Door

1. Jettison the canopy or door (if you have one)
2. **Never** unfasten your seatbelts first. If you're tumbling out of control they're the only thing holding you in place so you can reach the emergency release.

B. **Belts** (Unfasten them)

1. What about communication cords?

C. **Butt** (Get out of aircraft)

1. Claw, crawl or do whatever it takes to get out
  - a) **Use both hands.** Do not take hold of ripcord before leaving aircraft
2. Expect your exit to be very difficult
3. Get clear of your aircraft before pulling the ripcord

D. **Look, find, reach and pull** your ripcord

1. Look directly at the ripcord handle when pulling
  - a) **Never take your eyes off of the ripcord.**
  - b) **Finding & Pulling the ripcord is the most important thing in your life right now.**
2. Pull in the direction of the cable housing as if your life depended on it
3. Use both hands to pull the ripcord
4. Color coding ripcord handle will help you locate it quickly

## IX. Parachute Deployment Time

- A. Canopy must be fully open in 3 seconds or less to be FAA certified
- B. Average opening time is **2 seconds**
- C. Once it's open that's as slow as you're ever going to go.
  1. If you're only 6 inches off the ground, consider yourself very lucky
- D. Loss of altitude will vary according to aircraft attitude and trajectory
  1. The opening time will remain consistent
  2. **The altitude loss can vary greatly** (especially if pointed towards the ground)

## X. Under an Open Canopy

- A. Thank God and your Parachute Rigger
- B. Avoiding life threatening obstacles is your **number one** priority
  1. Turn your canopy with the steering handles or rear risers only
    - a) Pull down only **ONE** handle at a time. **NEVER** both at the same time.
  2. Make minor turns below 200 ft. (unless to miss a life threatening obstacle)
- C. Face into the wind for landing if conditions permit
- D. Forward speed of your canopy
  1. Average speed is 5 mph
  2. Determine approximate landing site
    - a) Expect to land between 45 and 60 degrees in direction you're drifting

## XI. Prepare for Landing

- A. Keep your eyes on the horizon
- B. Most pilots have a round parachute. **NEVER** flare (pull down both steering handles at the same time ) on a round parachute prior to landing. This is **NOT** a rectangular skydiving chute (non-rigid glider) that you flare like your aircraft. If you do **OUCH!**

- B. Feet and knees tight together
  - 1. Absorb most of the landing on the balls of your feet
  - 2. Don't raise your legs before landing
- C. When your feet touch, tuck in your chin and elbows
- D. If being dragged in high winds, collapse your parachute if still inflated
  - 1. Quickly get out of harness to prevent being seriously injured **OR**
  - 2. Climb hand over hand up 1 or 2 lines (side by side) towards the skirt of chute
  - 3. Remember to remove your chest strap **first** (if you have one)

## **XII. Problem Landing Areas**

- A. Powerlines – avoid at all costs!
- B. Tree landing
  - 1. Feet and knees together, protect head and neck with arms
  - 2. Do not grab branches until stopped
- C. Water landing – flotation gear must be worn
  - 1. Make sure flotation gear is not under harness
  - 2. Inflate prior to entry into water
  - 3. **Do not ever** get out of harness until your feet touch the water
    - a) Swim away from parachute to prevent entanglement

## **XIII. Other Elements of a Successful Bailout**

- A. Wear a helmet for protection during bailout and landing
  - 1. Quick release on helmet to leave communication cord in aircraft
    - a) Cord could entangle with deploying parachute
- B. Wear Nomex clothing and gloves
  - 1. Replace when worn out
- C. Carry a signal mirror and a flat whistle
  - 1. Carry them in your flightsuit, waistpack or SMAK Pak
- D. Canopy breaker
- E. Slide back or jettison canopy during an out landing
- F. Make sure all emergency escape handles work properly
- G. All survival items **MUST** be carried on you
  - 1. If left in your aircraft they're called camping gear.
- H. Name a couple of other high tech items that are available?
  - 1. ?
  - 2. ?

## **XIV. Safely Back on Earth**

- A. Spread out your parachute to help rescuers locate you
- B. Use your survival equipment to summon help
- C. Congratulate yourself on a job well done
- D. **Most Important!**
  - 1. Your rigger deserves a bottle of wine, a case of beer, or something special
  - 2. I prefer wine - **No** screw lids, please

## THANK YOU

IF YOU HAVE FURTHER QUESTIONS PLEASE FEEL FREE TO CALL OR E-MAIL ME.  
MY BUSINESS HOURS ARE MON. - THUR. 9:00AM TO 5:30PM (PST)

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