

EMERGENCY BAILOUT PROCEDURES AND SURVIVAL EQUIPMENT FOR PILOTS

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THINK & PRACTICE SURVIVAL!

LEARN IT – LINK IT- LIVE IT

“Accidents Do Not just happen to THEM they happen to YOU”.

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I. Key Points to Take Away from My Presentation

- A. Once your parachute is fully open (**2-3 seconds**), Your rate of descent is as slow as it will ever be. Your altitude loss during those 2-3 seconds 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% or more.**

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.

Astronaut Charlie Precourt gave a talk on “Normalization of Deviance”. “It’s always worked before why change”? This is not acceptable and has caused serious accidents and/or fatalities.

- 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. I’m Sure You Can Think of Many 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. Altitude (AGL) is your friend.
 - 2. **NEVER** give up! What do you have to lose?
 - a) What may not work the first time may work on subsequent tries.
 - 3. Remember your chute must be fully open in 3 seconds or less.
 - 4. Remember, 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 test 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**. And focused under stress.
- E. By Practicing You: **Learn it – Link it – Live it** – Strive to **Be Good**. This requires you to hone your skills and discipline or you can just roll the dice and **Be Lucky**.

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 **MUST** be familiar with your type of parachute.
 - b) If unsure, check their FAA license for the proper ratings.
 - c) Make sure they have the most current factory packing manuals.
 - d) Pull the ripcord and **take your chute out of the container** and inspect it (if possible) even if you ship your parachute to your rigger.
 2. Store your parachute properly.
 - a) Keep in a cool, dry, dark place away from UV light.
 - b) Keep it off the floor. A plastic box with snap on lid works well.
- B. Pre-Flight your parachute.
1. Inspect carrying bag for dirt and stains before removing your parachute.
 2. **Next** check the ripcord pins. Are they seated properly and not bent?
 3. Is the ripcord handle secured properly in its pocket?
 4. Make sure there are no obstructions inside the ripcord cable housing. Gently pull the ripcord cable back and forth by the ball on the end of it.
 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 could cut your egress time by 50% or more.
 - b) Reaction time (muscle memory) is faster than having to think about what to do and then trying to figure out how to do it before you run out of time and altitude.

V. What Makes Similar Parachutes Different?

- A. Line tensile strength. Lines with 400, 550 and 600 lbs. are in common use today.
- 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 a minute of airflow through material
 2. Lo-Po (Low Porosity) – 30-40 cfm
 3. F-111 – approx. 3-5 cfm
- D. Canopy diameters of 24', 26' and 28' are in common use today.

3.

E. Manufacturer's speed and weight limitations

1. I recommend a minimum rating of 150 KIAS for most pilots.
2. Rated to carry a minimum of 220 lbs.
3. Rate of descent of 16 fps (feet per second) or slower is like jumping from about 4 feet.
 - a) Remember this includes your weight and all your 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) What is my rate of descent with my weight and all my equipment on?
 - b) What speed and weight is this parachute placarded at?
 - c) Do not ever 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. Then your 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/face.

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 – **Remember:** Canopy/Door, Belts & 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 (s)...

4.

B. Belts (Unfasten them)

1. What about communication cords? Should I disconnect them?

C. Butt (Get out of aircraft). Slink over the side like a slithering snake if you can. This will minimize your exposure to windblast taking you for a ride into the tail section.

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 you reach, find and pull 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 handle, it may have shifted.**
 - 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, if possible.
4. Color coding ripcord handle will help you locate it quickly.

IX. Parachute Deployment Time

- A. Canopy: It must be fully open in 3 seconds or less to be FAA certified.
- B. Average opening time is about **2 seconds**.
- C. Once it opens 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 depending on your aircraft's attitude and trajectory.
 1. The opening time 2-3 seconds will remain consistent.
 2. **Altitude loss can vary greatly** (if your aircraft is headed straight down).

X. Under an Open Canopy

- A. Thank God and your Parachute Rigger later. You have work to do.
- 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 or riser at a time.
NEVER both at the same time.
 2. Make minor turns below 200 ft. (unless to miss a life-threatening obstacle).
 3. Stay clear of roads. They quite often have power lines next to them.
 4. **Remember** these instructions are for Round Parachutes not Ram-Air.
- C. Face into the wind for landing if conditions permit.
- D. Forward speed of your canopy
 1. Average canopy speed is 5 mph. Remember you could be backing up.
 2. How do I determine my approximate landing site?
 - a) Expect to land between 45 and 60 degrees in direction you are 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!**

5.

- C. Feet and knees tight together. **Do Not** lock your knees.
 - 1. Absorb most of the landing on the balls of your feet.
 - 2. Do not raise your legs before landing. They must be under you.
- D. When your feet touch, tuck in your chin and elbows to protect your head and neck.
- E. Being dragged in high winds is not fun. You must get out of your parachute harness or collapse your parachute right away, even if you're not being dragged.
 - 1. Quickly get out of your harness to prevent being seriously injured **OR**
 - 2. Climb hand over hand up 1 line or 2 lines next to each other pulling the skirt of the parachute towards you until you have your parachute under
 - 3. Remember to (FIRST) remove your chest strap, if you have one then your leg straps. Doing the leg straps first, in high winds, may cause the chest strap to slide up under chin and choke you.

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 you have come to a complete stop.
- C. Water landing – flotation gear must be worn.
 - 1. Make sure the flotation gear is **not under** your parachute harness.
 - 2. Inflate prior to entry into the water.
 - 3. **Do Not Ever** undo your harness (in the air) until your feet touch the water.
 - a) Swim away from your parachute, once your free, 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, but not likely.
- B. Wear Nomex clothing and gloves.
 - 1. Replace when worn out.
- C. Carry a signal mirror a flat whistle and fire starter.
 - 1. Carry them in your flight suit, a waist pack or one of my SMAK Paks.
- D. Slide back or jettison canopy prior to an out landing to prevent being trapped.
- E. Make sure all emergency jettison/escape handles work properly. Check at annual.
- F. Canopy breaker? Maybe, but many canopies will not easily break.
- G. All survival items **MUST** be carried on you.
 - 1. **If stored in your aircraft it's called Camping Gear.**
- H. Name a couple of other high-tech items that are available to you?
 - 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

Remember to Learn Discipline so You Don't Have to Endure the Pain of Regret

IF YOU HAVE FURTHER QUESTIONS PLEASE FEEL FREE TO CALL OR E-MAIL ME.

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