



## Upset Prevention and Recovery Training (UPRT) Course

### Ground Training

Classroom – approximately 2 hours

Discussion

Power Point (yippee)

Various Videos

- Common Upset Conditions:
  - Extreme nose High and nose Low pitch upsets
  - Extreme bank angles upsets
  - Wake Turbulence upsets
  - High and Low energy states
  - Various stalls
  - Graveyard Spiral recognition and recovery
  - Autopilot and Instrument induced upsets
  - Distractions
  - Spins
- Load Factor and Bank Angle
  - The 1G state and its effects on the aircraft
  - The reality of “Va – Maneuvering Speed”
  - Bank Angle and the effect on Load Factor
  - G-Loading and the effect of Load Factor
- Unloading the Wing
  - Unloading the Wing regardless of bank angle
  - Effect on AoA (stall speed) by reducing the ‘G’
  - Effect of rolling to level prior to applying upward recovery
  - Low/Zero G keeps the wing flying
- Roll Upright vs Continuing the Roll
  - Going beyond the vertical
  - The natural trend of the nose to drop
  - Rolling towards the nearest “up”
  - When and how to “Continue the Roll”

## **Flight Training**

Each flight lesson starts with approximately 30 minute briefing and 1.0 flight time as needed

### **Lesson One: Aerodynamics and Stalls**

- Demonstration and Review of the “Common” Stalls
- Demonstration and practice of Turning Stalls and the effect of Wing Loading
- Demonstration and practice of Accelerated Stalls
- Demonstration of effect of Unloading the Wing on Stall Speed and aircraft response
- Demonstration of Spin Entry and Immediate Recovery techniques
- Demonstration of the Four Stages of a Spin, with guided recovery
- Demonstration of One and Two Turn Spins with guided recovery

### **Lesson Two: Spins and Upsets**

- Orientation to Emergency Parachute preflight and proper fit
- Orientation to Emergency Egress and parachute deployment
- Review of Stalls and Spin Entry with Immediate Recovery
- Introduction to Knife-Edge Flight and proper recovery response
- Introduction to Inverted Flight and proper recovery response
- “Unload the Wing” response
- “Roll to the nearest Upright Horizon” response – Bank angles 45°-135°
- Response and Recovery practice from 45° bank to Inverted conditions
- Introduction to excessive Pitch conditions and proper recovery response
- Spiral Dive response and recovery practice
- Introduction to the “Base to Final – Tuck Under Stall Spin” response and recovery
- Tuck Under Stall Spin response and recovery practice
- Any additional attitudes response and recovery training as desired

This course may be a continuation of the Stall/Spin course or as a stand alone course.

This is not an introduction to aerobatics course, but an Unplanned Upset Recovery course. The aerobatic attitudes are used to simulate extreme pitch/roll attitudes and recovery techniques which are intended for Normal Category aircraft. Nothing in this course should be considered to be Aerobatic Training.

Get those wheels upside down!