



# UNHINGED AEROBATICS - COURSE OFFERINGS

*All training is done in our fully aerobatic Super Decathlon or your airplane, on request.  
Flight training includes headset and parachute rental, as required.*

## **CFI Spin Endorsement**

*Satisfies the Requirements of § 61.183(i) for CFI-Applicant Spin Training*

**Course Duration – Approx. 1.0 hr Ground, 1.5 hr Flight**

- Ground Training
  - Advanced Stall Aerodynamics and Procedures
  - Advanced Spin Entry and Recovery Aerodynamics
  - Spin Entry and Recovery Procedures, including non-standard Spins
  - Instructional Spin Techniques and Common Errors
- Flight Instruction
  - Parachute Briefing
  - Aircraft Cockpit Briefing
  - Aircraft Flying Qualities Familiarization
  - Basic and Advanced Stall Exercises
  - Basic and Advanced Spin Entries and Recoveries
  - Instructional Spins
  - Intro to Tailwheel Flying (As Applicable)



## **UPRT (Upset Prevention and Recovery Training) Course**

*General-Aviation and Transport-Category Focused Courses Available*

Course Duration –

Short Course (Mods. 1-2): Approx. **3.0 hr. Ground, 3.5 hr. Flight**

Long Course (Mods. 1-3): Approx. **4.0 hr. Ground, 4.5 hr. Flight**

### **Module 1 – Introduction to Aircraft Upsets, Stall/Spin Upsets**

- Ground Training
  - Aircraft “Upsets” and LOC-I Causes and Statistics
  - Aircraft Certification and Limitations
  - Upset Aerodynamics and Energy Envelope
  - *Standardized Upset Recovery* Procedure
  - Aircraft Stall and Spin Upsets
  - Human Factors
- Flight Instruction
  - Parachute Briefing
  - Aircraft Cockpit Briefing
  - Aircraft Flying Qualities Familiarization
  - High/Low G-Familiarization
  - Aircraft Controllability and Stability Exercises Throughout Envelope
  - Stall and Spin Upset Entries and Recoveries

### **Module 2 – Unusual Attitude Upsets**

- Ground Training
  - Flight Path Mismanagement LOC-I Data and Statistics
  - All-Attitude Upsets – Causes, Aerodynamics, Results
  - Energy State Recognition and Upset Prevention
  - Review of the *Standardized Upset Recovery*
- Flight Instruction
  - Review/Completion of any Module 1 Flight Tasks as Required
  - Maneuvering Through Aircraft Attitude and Speed Envelope
  - Unusual-Attitude Entries and Recoveries
  - Scenario-Based Unusual Attitude Upsets



### **Module 3 – System Failures and Advanced Upset Scenarios**

- Ground Training
  - Review Aircraft Upset Scenarios and Utilization of the *Standardized Upset Recovery*
  - Flight Control System Failures – Overview and Discussion
  - Instrumentation and Automatic Failures - Overview and Discussion
  - Recovery Techniques for System-Induced Upsets
- Flight Instruction
  - Scenario-Based Integration of Module 1/2 Upset Recoveries
  - Control-System Failure Upset Recoveries
  - Instrumentation/Automation System Failures Upset Recoveries
  - Intro to Aerobatic Maneuvering (As Applicable)



## **Competition Aerobatic Training – Primary Level**

*Zero Aerobatic Experience to Primary-Level Aerobatic Competition Flying, or Maneuver Training a la Carte*

**Course Duration – Full Course (Mods. 1-5): Approx. 3.0 hr. Ground, 5.0 hr. Flight**

### **Module 1 – Intro to Aerobatics and Upset Recovery**

- Ground Training
  - Introduction to Aerobatics – Definitions and Risk Mitigation
  - Aerobatic Regulations and Aircraft Limitations
  - Physiological and Human Factors Role in Aerobatics
  - Stall/Spin Upset Recovery Discussion and Procedures
  - Unusual Attitude Upset Recovery Discussion and Procedures
  - Intro to Aresti and Competition Flying
- Flight Instruction
  - Parachute Briefing
  - Aircraft Cockpit Briefing
  - Aircraft Flying Qualities Familiarization
  - Stall and Spin Upset Entries and Recoveries
  - Advanced Stall and Spin Exercises, Competition Spins
  - Unusual Attitude Upset Entries and Recoveries
  - Low/High-G Familiarization

### **Module 2 – Aileron Rolls, Loops, Half and Reverse-Half Cuban Eights and Lines**

- Ground Training
  - Aileron Rolls – Aerodynamics, Procedures, Common Errors and Appropriate Responses
  - Loops – Aerodynamics, Procedures, Common Errors and Appropriate Responses
  - Cuban Eights – Aerodynamics, Procedures, Common Errors and Appropriate Responses
- Flight Instruction
  - G-Warmups
  - Aileron Rolls – Normal and Abnormal Procedures and Recoveries
  - Loops – Normal and Abnormal Procedures and Recoveries
  - Recognizing and Flying Lines
  - Cuban Eights – Normal and Abnormal Procedures and Recoveries
  - Introduction to Aerobatic Sequences and Sequence Flying



### **Module 3 – Inverted Flight, Slow Rolls, Immelmanns**

- Ground Training
  - Inverted Flight – Aerodynamics, Procedures, Common Errors and Appropriate Responses
  - Slow (Competition) Rolls – Aerodynamics, Procedures, Common Errors and Appropriate Responses
  - Immelmanns – Aerodynamics, Procedures, Common Errors and Appropriate Responses
- Flight Training
  - G-Warmups
  - Inverted Flight – Normal and Abnormal Procedures and Recoveries
  - Inverted Stall Recoveries
  - Slow Rolls – Normal and Abnormal Procedures and Recoveries
  - Immelmanns – Normal and Abnormal Procedures and Recoveries
  - Continued Aerobatic Sequence Development

### **Module 4 – Vertical Maneuvers**

- Ground Training
  - Hammerheads – Aerodynamics, Procedures, Common Errors and Appropriate
  - Humpty-Bumps – Aerodynamics, Procedures, Common Errors and Appropriate
- Flight Instruction
  - G-Warmups
  - Hammerheads – Normal and Abnormal Procedures and Recoveries
  - Humpty-Bumps – Normal and Abnormal Procedures and Recoveries
  - Inverted Spin and Inverted Flat Spin Recoveries

### **Module 5 – Maneuver Wrap-Up and Sequence Formation**

- Ground Training
  - Sequence Generation and Competition Aerobatic Flying
  - Competition Turns
- Flight Instruction
  - Individual Maneuver Practice/Signoffs A/R
  - Sequence Generation and Performance
  - Aerobatic Box Familiarization and Flying



## **Competition Aerobatic Training – Sportsman-Intermediate Level**

*Sportsman and Intermediate Level Competition Aerobatic Training – a la Carte*

**Course Duration – A/R**

- Ground Training
  - Individual Maneuver Aerodynamics and Procedures A/R
  - Sequence Flying and Competition Techniques A/R
- Flight Instruction
  - Individual Maneuver Training and Signoffs A/R
  - Sequence and Competition Training A/R

## **Introduction to Aerobatics**

*A Great Introduction to the World of Aerobatics*

**Course Duration – 45 min. Flight**

- Ground Training
  - Introduction to Aerobatics and Maneuver Overview
- Flight Instruction
  - Parachute Briefing
  - Aircraft Cockpit Briefing
  - Introduction to Several Aerobatic Maneuvers and Basic Instruction



## **Tailwheel Endorsement**

*Satisfies the Requirements of § 61.31(i) for Initial Tailwheel Endorsements*

**Course Duration – Approx. 1.0 hr. Ground, Typically 5.0-6.0 hr. Flight**

- Ground Training
  - Tailwheel vs. Tricycle Gear Characteristics/Stability
  - Ground Handling/Taxi Procedures
  - Takeoff Procedures
  - Three-Point/Wheel Landing Procedures
  - Emergency Procedures
- Flight Instruction
  - Aircraft Cockpit Briefing
  - Aircraft Flying Qualities Familiarization
  - Taxi Techniques
  - Normal/Aborted Takeoffs
  - Three-Point Landings – Normal and Crosswind
  - Wheel-Landings – Normal and Crosswind
  - Emergency Procedures

*All training durations listed are estimates, some pilots require less time for proficiency, some more. Current rates available on [UnhingedAerobatics.com](http://UnhingedAerobatics.com)*

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