

# Benz Aviation – Upset Prevention & Recovery Training (UPRT) Syllabus

**Aircraft:** American Champion Super Decathlon 8KCAB

**Instructor:** \_\_\_\_\_ **Student:** \_\_\_\_\_

## Course Overview

| Module                                      | Basic UPRT | Advanced UPRT |
|---------------------------------------------|------------|---------------|
| Ground: Upset Prevention & Recovery Lecture | ✓          | ✓             |
| UPRT Flight 1                               | ✓          | ✓             |
| UPRT Flight 2                               | ✓          | ✓             |
| UPRT Flight 3                               | ✓          | ✓             |
| Ground: Spin Awareness & Spins Lecture      | —          | ✓             |
| Spin Flight 1                               | —          | ✓             |
| Spin Flight 2                               | —          | ✓             |

**Training sequence:** Ground lecture → UPRT Flights 1–3 → (Advanced only) Spin lecture → Spin Flights 1–2.

## Part A – Basic & Advanced Courses

### Ground Lesson 1: Upset Prevention & Recovery Lecture

#### Section 1 – Aerodynamics

- Energy states (kinetic, potential, chemical)
- Four forces on an airplane
- Load factor and category G-limits
- Maneuvering speed ( $V_a$ ) and the  $V_g$  diagram
- Unusual attitudes
- Angle of attack; stalling at any airspeed and any attitude
- Stall recovery – push, unload, decrease AOA
- Longitudinal angles
- Control surfaces and trim
- Dihedral, yaw-roll coupling, and crossover speed
- Lift vector in a turn
- Yaw and directional stability

- Extreme low airspeed flight

## **Section 2 – Physiology & Human Factors**

- Spatial disorientation – types, visual, vestibular, and somatogravic illusions
- Preventing spatial disorientation – trust your instruments
- Motion sickness and how to minimize it
- G-force effects and the Anti-G Straining Maneuver (AGSM)
- Startle response and the panic pull
- Aeronautical decision making (ADM) and situational awareness

## **Section 3 – Upset Recovery Procedures**

- Upset recovery technique overview
- Stall performance
- Nose high and nose low upset recovery
- Nose high inverted and nose low inverted upset recovery
- Nose high 90° (knife-edge) upset recovery
- Upset recovery vs. aerobatics

Completed: \_\_\_\_\_ Instructor initials: \_\_\_\_\_

## **UPRT Flight 1**

1. Aircraft handling
2. Adverse yaw demo
3. Dutch rolls
4. Slow flight
5. Stalls
6. Steep turns
7. Wingovers
8. Flight in less than 1 G
9. Intro to recoveries from all attitudes

Completed: \_\_\_\_\_ Instructor initials: \_\_\_\_\_

## **UPRT Flight 2**

1. Dutch rolls
2. Accelerated stalls
3. Roll stability demo
4. Intro to control failure mitigation
5. Cross-controlled turning stalls
6. Recoveries from all attitudes
7. Lift vector orientation
8. Split S demo
9. Inverted flight with turns

Completed: \_\_\_\_\_ Instructor initials: \_\_\_\_\_

## **UPRT Flight 3**

1. Dutch rolls
2. Spiral dive recovery
3. Systems failures

4. Control failure mitigation
5. Recoveries from all attitudes
6. Intro to spins

Completed: \_\_\_\_\_ Instructor initials: \_\_\_\_\_

## Part B – Advanced Course Only

### Ground Lesson 2: Spin Awareness & Spins Lecture

- The four phases of a spin – entry, incipient, developed, recovery
- Factors affecting spin entry and recovery
- Spin vs. spiral dive
- Aircraft approval requirements
- Spin-inducing situations
- Spin procedure in the Super Decathlon
- PARE spin recovery – Power idle, Ailerons neutral, Rudder full opposite, Elevator forward
- ACS completion standards, common errors, and risk management

Completed: \_\_\_\_\_ Instructor initials: \_\_\_\_\_

### Spin Flight 1

1. Dutch rolls
2. Upright spin recoveries during incipient phase
3. Upright spin prevention, entries, and recoveries
4. Basic all-attitude maneuvers
5. Review of recoveries from all attitudes

Completed: \_\_\_\_\_ Instructor initials: \_\_\_\_\_

### Spin Flight 2

1. Dutch rolls
2. Upright spin prevention, entries, and recoveries
3. Aggravated spin entries and recoveries
4. Inverted spin recoveries
5. Integration of upset recovery skills

Completed: \_\_\_\_\_ Instructor initials: \_\_\_\_\_

## Course Completion

Course: ☐ Basic UPRT ☐ Advanced UPRT

Date completed: \_\_\_\_\_ Instructor signature: \_\_\_\_\_

## References:

- Airplane Flying Handbook
- Pilots Handbook of Aeronautical Knowledge
- ICAO Airplane Upset Recovery Training Aid Rev 3
- FAA AC 120-111 Upset Prevention and Recovery Training
- FAA AC 61-67c Stall and Spin Awareness