

Unit 1 (GROUND) Introduction to Upset Prevention and Recovery Training

Lesson Objective

Introduce the learner to definition, causes, prevention and recovery procedures for upsets.

Preparation

- AFH (FAA-H-8083-3C) – Chapter 5: Maintaining Aircraft Control: Upset Prevention and Recovery Training
- AC 120-11 Upset Prevention and Recovery Training

Content

- ☐ Accident Statistics Analysis
 - ☐ Loss of Control – Inflight (LOC-I) Accident Analysis
- ☐ Upsets: Definitions, Causes
 - ☐ Environmental Factors
 - ☐ Mechanical Factors
 - ☐ Human Factors
 - ☐ Stall-Related Factors
- ☐ Aerodynamics
 - ☐ Load Factor, Vg Diagram
 - ☐ Angle of Attack, Lift, Drag
 - ☐ Maneuvering Speed
 - ☐ Stalls
 - Airflow over the wing and tail in a stall
 - Stall recognition cues
- Control effectiveness in a stall
- Stall recovery procedure
- Effect of weight
- Effect of CG
- Effect of Density Altitude
- Effect of wing contamination
- ☐ Energy Management
- ☐ Recognizing Upsets
 - ☐ Visual and auditory cues
 - ☐ Instrument Indications
- ☐ Upset prevention and recovery procedures
- ☐ Stall recognition and recovery procedures

Completion Standards

- ☐ The learner can describe the causes of upsets.
- ☐ The learner can describe the upset recovery technique for nose high and nose low recoveries.

Date_____	Student Name_____	Student Signature_____
Aircraft ID_____	Instructor Name_____	Instructor Signature_____
Complete _____	Discussion Time (1.0) _____	Flight Time (0) _____

Unit 2 (FLIGHT) Stall Recoveries and Introduction to Upsets

Lesson Objective

- Improve the learner's confidence in controlling the airplane in a variety of attitudes.
- Improve the learner's confidence in recognizing and recovering from a variety of stalls.
- Develop the learner's G awareness and G tolerance.
- Develop the learner's upset prevention and recovery skills.

Content

Preflight Discussion

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| ☐ Aircraft/Cockpit Familiarization | ☐ G-Awareness; Anti-G Straining Procedure |
| ☐ Emergency / Safety Procedures | ☐ Pre-Maneuver Check; HASELL |
| ☐ Cockpit Mgmt: Loose Objects, cables, straps | ☐ Parachute inspection, fit, and use |
| ☐ Transfer of Controls; Emergency Release of Controls | ☐ Bail out procedures |
| ☐ Airplane Emergency Procedures | ☐ PAVE/CARE/TEAM |

Flight Training

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|--|--|
| ☐ Rudder Coordination | ☐ Accelerated Stalls |
| ☐ Vertical S | ☐ Full Control Maneuvering (Aileron Roll) |
| ☐ 60/90 Turns | ☐ Nose Low Upright Upsets (Demo/Do) |
| ☐ Stall Recoveries | ☐ Nose High Upright Upsets (Demo/Do) |
| ☐ Power Off Stalls | ☐ Inverted Upset Recoveries (Demo) |
| ☐ Power On Stalls | ☐ Power Off 180 Approach and Landing |
| ☐ Turning Stalls | |
| ☐ Slipping Stalls | |

Completion Standards

- ☐ The learner can recover from all stalls within Private Pilot Airmen Certification Standards.
- ☐ The learner can identify when 2G and 3G of load factor are developed using physiological cues.
- ☐ The learner can recognize an impending nose high and nose low upset.

Date_____	Student Name_____	Student Signature_____
Aircraft ID_____	Instructor Name_____	Instructor Signature_____
Complete _____	Discussion Time (0.5) _____	Flight Time (1.0) _____

Unit 3 (FLIGHT) Developing Upset Prevention and Recovery Proficiency

Lesson Objective

- ☐ The learner will develop proficiency in preventing and recovering from nose low and nose high upsets.

Content

Preflight Discussion

- ☐ Review upset recovery procedure
- ☐ PAVE/CARE/TEAM

Flight Training

- ☐ Nose High Upright Upsets
- ☐ Nose High Inverted Upsets
- ☐ Nose Low Upright Upsets
- ☐ Nose Low Inverted Upsets
- ☐ Simulated Wake Turbulence Recovery
- ☐ Power Off 180 Approach and Landing

Completion Standards

- ☐ The learner can identify developed nose high and nose low upsets and use the appropriate recovery procedure.

Date_____	Student Name_____	Student Signature_____
Aircraft ID_____	Instructor Name_____	Instructor Signature_____
Complete _____	Discussion Time (0.25) _____	Flight Time (1.0) _____

Unit 4 (GROUND) Spin Entries, Dynamics and Recovery

Lesson Objective

- ☐ The learner will develop a deep understanding of the causes, aerodynamics and recovery procedure for incipient and developed spins.

Preparation

- PHAK (FAA-H-8083-25C) – Chapter 5: Aerodynamics of Flight
- AFH (FAA-H-8083-3C) – Chapter 5: Maintaining Aircraft Control: Upset Prevention and Recovery Training
- Advisory Circular 61-67C (with Change 1 & 2) Stall and Spin Awareness Training
- Air Safety Institute: Stall and Spin Accidents: Keep the Wings Flying

Content

- | | |
|---|---|
| ☐ Spin Accident Analysis | ☐ Orientation during a spin |
| ☐ Spin Accidents: Phases of flight | ☐ Instrument indications during a spin |
| ☐ Spin causes | ☐ Spin Dynamics: Effect of controls in a spin |
| ☐ Events and contributing factors that lead to spins | ☐ Spin Dynamics: Effect of weight in a spin |
| ☐ Spin Recognition | ☐ Spin Dynamics: CG location |
| ☐ Spin vs Spiral | ☐ Spin Recovery Procedures |
| ☐ Spin Phases | ☐ Aircraft Spin Certification Requirements |
| ☐ Spin Modes | ☐ Aircraft-specific Spin Testing, Certification and Recovery |
| ☐ Load Factor during spin and recovery | |

Completion Standards

- ☐ The learner can identify the situations, contributing factors, and control input that can lead to an inadvertent spin.
- ☐ The learner can explain the PARE spin recovery procedure.
- ☐ The learner can recognize the start of an incipient spin and execute PARE or the manufacturer's spin recovery procedure to return to controlled flight.

Date _____	Student Name _____	Student Signature _____
Aircraft ID _____	Instructor Name _____	Instructor Signature _____
Complete _____	Discussion Time (1.0) _____	Flight Time (0) _____

Unit 5 (FLIGHT) Incipient Spin Prevention and Recovery

Lesson Objective

The learner will develop confidence in recognizing incipient spins and recovering from the spin before it becomes developed.

Content

Preflight Discussion

- ☐ Review upset recovery procedure
- ☐ Review spin recovery procedure
- ☐ PAVE/CARE/TEAM

Flight Training

- ☐ Nose High Upright Upsets
- ☐ Nose High Inverted Upsets
- ☐ Nose Low Upright Upsets
- ☐ Nose Low Inverted Upsets
- ☐ Incipient Spins (Left and Right)
 - ☐ Prevention
 - ☐ Entry
 - ☐ Recovery
- ☐ Two Turn Spins – Left and Right
- ☐ Power Off 180 Approach and Landing

Completion Standards

- ☐ The learner recognizes the start of an incipient spin and uses the spin recovery procedure to regain control of the airplane.

Date_____	Student Name_____	Student Signature_____
Aircraft ID_____	Instructor Name_____	Instructor Signature_____
Complete _____	Discussion Time (0.25) _____	Flight Time (1.0) _____

Unit 6 (FLIGHT) Developing Proficiency and Confidence

Lesson Objective

The learner will develop and demonstrate proficiency in identifying, preventing and recovering from upsets and incipient spins.

Content

Preflight Discussion

- ☐ Review upset recovery procedure
- ☐ Review spin recovery procedure
- ☐ PAVE/CARE/TEAM

Flight Training

- ☐ Nose High Upright Upsets
- ☐ Nose High Inverted Upsets
- ☐ Nose Low Upright Upsets
- ☐ Nose Low Inverted Upsets
- ☐ Instrument Reference Upset Recoveries
- ☐ Incipient Spin Recoveries
- ☐ Three Turn Spin Recoveries
- ☐ Power Off 180 Approach and Landing

Completion Standards

- ☐ The learner demonstrates proficiency in identifying, preventing and recovering from upsets and incipient spins.

Date_____	Student Name_____	Student Signature_____
Aircraft ID_____	Instructor Name_____	Instructor Signature_____
Complete _____	Discussion Time (0.25) _____	Flight Time (1.0) _____