UPRT SAFETY SUMMIT

FOR

PILOTS WORLDWIDE

Every Pilot in Control Solution Standard (EPIC-S2™)

A UPRTA International Resource

INTERNATIONAL UPRTA

UPSET PREVENTION & RECOVERY TRAINING ASSOCIATION

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UPRTA International's EPIC -S2™ standard:

The 6 critical factors of an effective UPRT program implementation.

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The six critical factors of the integrated **EPIC-S2™** model are:

- High-level and include instructor qualifications (the elite instructor)
- Program development (integrated program)
- Program duration (intensity)
- Industry compliance (best practices)
- Purpose-built training platforms
- Other key structural elements to include initial and recurrent training.

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Why?

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Loss of control in-flight (LOC-I) is a leading cause of fatalities in aviation. To mitigate the LOC-I threat, the industry is now keenly focused on improving safety mainly through enhanced training programs.

The problem is, all too often, the regulatory guidance on creating and implementing Upset Prevention and Recovery Training (UPRT) programs are overly vague and lack specificity in practical implementation. Without a solid standard, improperly implemented UPRT programs are a risk; negative training and/or a negative transfer of skills potentially put the lives of pilots and passengers in jeopardy.

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UPRTA endorses EPIC-S2™

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UPRTA International endorses a powerful new model formally released to the industry in 2019 that features six critical UPRT program implementation factors.

The primary goal of the “Every Pilot in Control Solution Standard™” (**EPIC-S2™**) was to create a comprehensive framework for any safety-driven UPRT provider to embrace based on proven methods to further promote and substantially improve industry efforts to overcome LOC-I accidents – ultimately saving lives.

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UPRTA Says…

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According to Paul BJ Ransbury, President of UPRTA International, **"EPIC-S2™** is structured to help training providers in every segment of aviation, at any level of implementation complexity, address the critical factors necessary to effectively implement UPRT to make a difference necessary and to save lives."

Ransbury adds, "**EPIC-S2™** advances the industry's implementation by holistically integrating proven lessons learned and repeatedly demonstrated over the two decades and through the training many 10s of 1000s of pilots from every corner of aviation worldwide."

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1. Elite Instructors:

The most important element of any UPRT program is uniquely qualified instructors.

According to ICAO, “Due to the inherent dangers in upset training and the need to ensure proper skill training, risks should be mitigated by only permitting UPRT-qualified aeroplane flight instructors to deliver the in-flight training.”

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Capt. Clarke McNeace, UPRTA International Flight Department UPRT Team Lead says, “Despite the heavy emphasis placed on advanced instructor qualifications by ICAO, this, unfortunately, is usually compromised first. For instructors to effectively teach tangible mitigation skills, they need to be UPRT-specialized experts.

They need specialization in numerous atypical topics such as human factors, motion cueing, strategy-based crisis management, commercial airplane performance characteristics, transfer of skill, simplified instruction of complex concepts, laws of learning, and cross-aircraft translation of UPRT skills, and specialized knowledge.” McNeace suggests, “The role of the pilot instructor in the implementation of effective UPRT in accordance with EPIC-S2™ is pivotal to a consistent, effective safety solution.”

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2. Integrated programs:

An **EPIC-S2™** compliant program incorporates a targeted mix of industry- vetted loss of control academics, proper use of all-attitude airplanes and advanced flight simulation training devices representing the aircraft typically flown by the trainee/student.

According to UPRTA International, “each of these integrated components should adhere to the intent of the ICAO Manual on UPRT and IATA best practice for on-aircraft and advanced simulator UPRT.”

This integrated approach, when possible, solidifies training concepts that help among other things to improve skill acquisition and retention; this training not only teaches pilots how to prevent LOC-I accidents, but also significantly improves airmanship, decision making, resilience in crisis, and manual handling skills on every flight.

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3. Training intensity:

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EPIC-S2™ identifies two dimensions of training intensity critical to a successful UPRT program. This standard promotes maximum skill development and retention over time.

The first dimension is training intensity. According to UPRTA International, behavioral studies show that practicing a skill multiple times in a focused, deliberate manner over multiple days, when possible, develops deeper learning, faster decision-making and more accurate control response under stress. Skills learned in an UPRT program must be engrained; if an unexpected upset occurs, the strategic response should be the same as the day the student completed training – regardless of when the event occurs.

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3. Training intensity (continued)

The second dimension in training intensity relates to overlearning and overcoming potentially incapacitating human factors. In an unexpected upset, startle and surprise can affect the pilot's ability to think clearly and respond effectively.

Intense on-aircraft training with an elite UPRT instructor, for example, will allows pilots to overcome fear, confusion and uncertainty when confronted with an upset outside their experience in normal flight operations and training.

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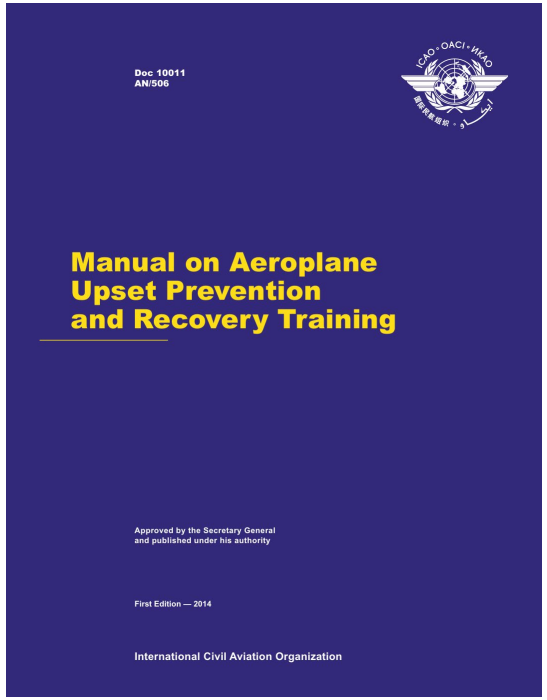
4. Best practices compliant:

EPIC-S2™ outlines regulatory guidance and elaborates on best practices that should be included in every UPRT program. According to UPRTA International, regulatory-defined training content should be considered a “minimum.” UPRT programs should follow the foundational guidelines of ICAO, IATA, EASA and FAA.

In addition, a well-constructed UPRT program will include and adhere to the best standards and practices of specialized, UPRT-experienced safety organizations such as UPRTA International.



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4. Best practices compliant (cont'd):

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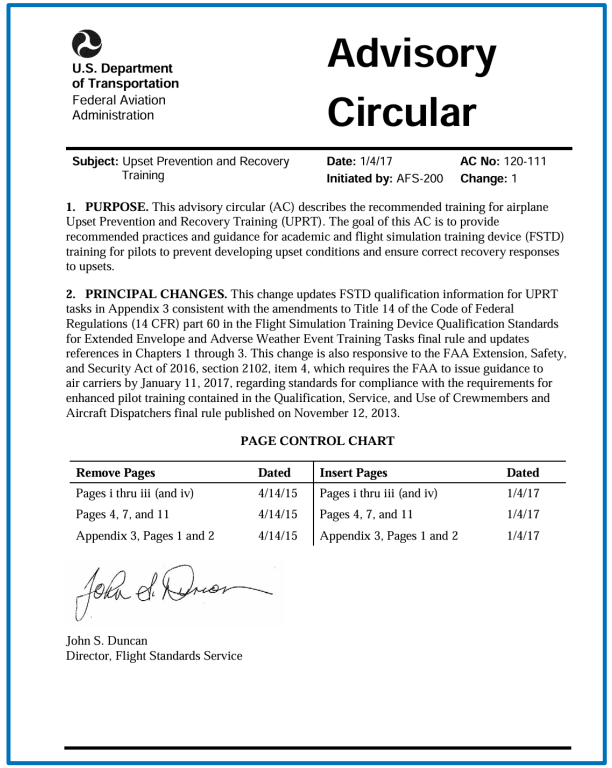
LOC-I mitigation, and UPRT program development, in-the-field execution, and understanding the effective application of industry best practices are core competencies of UPRTA International's line-up of proven experts.

This experience and expertise have been gained through first-hand UPRT integration and extensive participation in working groups with organizations such as RAeS, ICAO, FAA, EASA, and NBAA.



U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Upset Prevention and Recovery Training
Date: 1/4/17 **AC No:** 120-111
Initiated by: AFS-200 **Change:** 1

1. PURPOSE. This advisory circular (AC) describes the recommended training for airplane Upset Prevention and Recovery Training (UPRT). The goal of this AC is to provide recommended practices and guidance for academic and flight simulation training device (FSTD) training for pilots to prevent developing upset conditions and ensure correct recovery responses to upsets.

2. PRINCIPAL CHANGES. This change updates FSTD qualification information for UPRT tasks in Appendix 3 consistent with the amendments to Title 14 of the Code of Federal Regulations (14 CFR) part 60 in the Flight Simulation Training Device Qualification Standards for Extended Envelope and Adverse Weather Event Training Tasks final rule and updates references in Chapters 1 through 3. This change is also responsive to the FAA Extension, Safety, and Security Act of 2016, section 2102, item 4, which requires the FAA to issue guidance to air carriers by January 11, 2017, regarding standards for compliance with the requirements for enhanced pilot training contained in the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers final rule published on November 12, 2013.

PAGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
Pages i thru iii (and iv)	4/14/15	Pages i thru iii (and iv)	1/4/17
Pages 4, 7, and 11	4/14/15	Pages 4, 7, and 11	1/4/17
Appendix 3, Pages 1 and 2	4/14/15	Appendix 3, Pages 1 and 2	1/4/17

John S. Duncan
Director, Flight Standards Service

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5. Purpose-built platforms:

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A critical factor in safe and effective UPRT programs is purpose-built training platforms. According to UPRTA International, on-aircraft training in an all-attitude, aerobatic-capable airplane, where possible, is essential for pilots to develop advanced manual handling skills, effectively develop a three-dimensional mental model, and overcome the critical human factors (and the physiological effects) that often derail successful upset prevention and recovery during a real-world event.

For example, UPRT providers should target core training within the acceptable load limits of the aircraft that they operate. Most transport category aircraft have a load limit of +2.5 G's to -1.0 G's (clean). It is essential to train in aircraft that have a large safety margin above those limits. Likewise, for the corporate or airline pilot flying a modern swept-wing jet, some training should take place in a jet.

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5. Purpose-built platforms (cont'd):

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EPIC-S2™ employs an integrated approach to UPRT; one of the elements of this training is to utilize an advanced flight simulator approved for the maneuvers to be conducted.

During this phase of training, the pilot or crew will practice and refine skills – both flying and CRM - in a representative aircraft that is like what they normally fly.

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6. Initial and recurrent training:

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EPIC-S2™ outlines the intensity, density, and integration of the initial UPRT program. This initial training establishes a long-term, renewable knowledge and skill foundation. Much of this newly acquired knowledge and skill becomes perishable if not routinely practiced.

Therefore, according to UPRTA International, an effective UPRT program must offer a robust recurrent program to allow pilots to refresh cognitive familiarity and afford practice opportunities at least every two years.

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EPIC-S2™ promotes effective UPRT programs:

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UPRT specialists, such as APS, use the **EPIC-S2™** framework – endorsed by UPRTA – to support its core purpose, “We Help Pilots Bring Everyone Home Safely” and consistently deliver on its brand promise, “Every Pilot Trained – In Control – All the Time” for pilots at all levels worldwide.

According to UPRTA International, the integrated and comprehensive framework of **EPIC-S2™** bridges the gap of “just getting it done and getting it done right” to create a more robust UPRT program to arm pilots with the skills needed to overcome the LOC-I threat.

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Questions

Learn More at:

www.uprta.org

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