



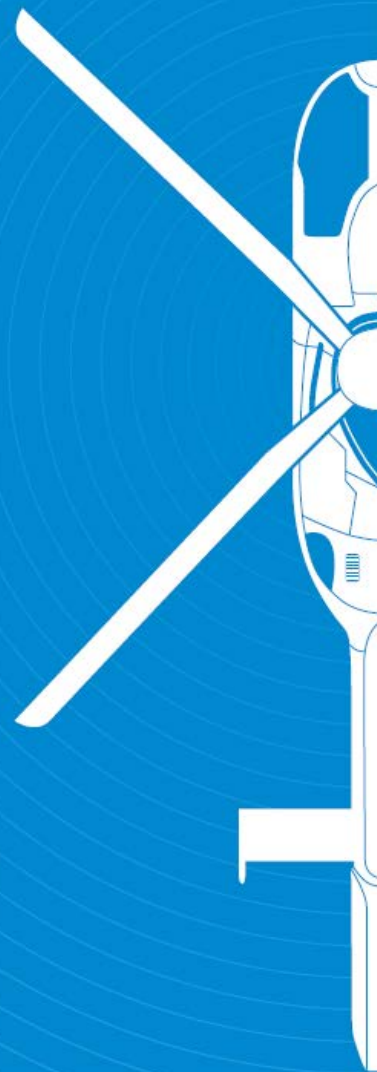
Safety Seminar 2017

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Annual Safety Review

2016



Non-Commercial Operations Aeroplanes – Key Risk Areas

Non-Commercial Aeroplane – Key Risk Area 1 - Aircraft Upset (Loss of Control): With 47%, loss of control is the most common type of accident outcome in the last 10 years for non-commercial operations with aeroplanes. Loss of control is the area of greatest focus for future work in this domain of operations.

Non-Commercial Aeroplane – Key Risk Area 2 - Terrain Conflict (CFIT): CFIT was the 2nd most common accident outcome in the last 10 years with 14.7% and continues to present a significant safety challenge in this domain of operations.

Non-Commercial Aeroplane – Key Risk Area 3 – Engine Failure: This is the 3rd most frequent type of fatal accident outcome in the last 10 years with 9.1% of all fatal accidents in this domain.

Non-Commercial Aeroplane – Key Risk Area 4 - Airborne Conflict: This is the 4th most common type of fatal accident outcome in the last 10 years with 5.5%. As well as the specific operational safety issue identified below, there are also HF safety issues that are closely related to airborne conflict that are further outlined later.

Operational Safety Issues

Non-Commercial Aeroplane – Operational Safety Issue 1 - Detection, Recognition and Recovery from Normal Operations. In non-commercial operations with aeroplanes this safety issue has the greatest involvement in fatal and non-fatal accidents. It is specifically related to the ability of pilots in identifying potential loss of control situations and to take the correct recovery action. The main area of initial analysis is loss of control during approach and landing, specifically during first turn after take-off or final turns to land when speed is particularly low.

Non-Commercial Aeroplane – Operational Safety Issue 2 - Operation in Adverse Weather Conditions: In terms of loss of control this is specifically related to pilot planning to understand the risks of changing weather conditions prior to take-off and then the handling of the aircraft when weather increases the workload on pilots, potentially beyond their level of experience. This safety issue is also related to CFIT accidents and a typical scenario involves worsening weather leading to inadvertent flight into IMC conditions resulting in a collision with terrain.

Non-Commercial Aeroplane – Operational Safety Issue 3 - Maintaining Adequate Separation Between Aircraft: The main safety issue for airborne conflict for non-commercial operations aeroplanes involves pilot situational awareness leading to loss of separation between aircraft.

Non-Commercial Aeroplane – Operational Safety Issue 4 - Pre-Flight Preparation/Planning and In-Flight Re-Planning. Flight preparation, planning and in-flight re-planning is a safety issue that frequently leads to CFIT accidents, particularly when worsening weather leads to the need for in-flight re-planning which then considerably tests a pilot's ability to also fly the aircraft.

Human Factors Safety Issues

Non-Commercial Aeroplane – Human Factors Safety Issue 1 - Flight Crew Perception and Awareness: This safety issue is linked to a number of different types of accident, especially in terms of awareness of the aircraft's energy state leading to loss of control and also awareness of both the geographical position of the aircraft and its position in relation to other aircraft. Rulemaking task RMT.0677 will enable pilots to have easier access to an IFR rating which should significantly reduce the risk of unintended flights into clouds and enable private pilots to fly safer in critical weather.

Non-Commercial Aeroplane – Human Factors Safety Issue 2 - Use and Adequacy of Rules and Procedures: Another HF safety issue identified in the analysis has been the use, availability and adequacy of rules and procedures. Because non-commercial operations involve private pilots it is vital that they are provided with clear, simple information and are able to continually improve their knowledge and application of rules. Rulemaking task RMT.0657 on training outside of ATOs is designed to help provide more clarity to both pilots, instructors and examiners as well as the NAAs with the intention to make it easier for those stakeholders to adopt the rules and procedures in their daily flying experience.

Non-Commercial Aeroplane – Human Factors Safety Issue 3 - Knowledge and Competency of Individuals: The final HF priority area is related to the knowledge and competency of individuals. In recent NoA analysis of airborne conflict, the complexity of airspace structures was identified as one example where the complicated nature of the aviation system makes things challenging especially for private pilots. The safety risk assessment in this area will specifically consider ways to provide clear, simple information to help pilots have the right information to perform flights as safely as possible. Rulemaking task RMT.0678 is designed to aid pilots in their theoretical aviation knowledge. This task also considers a modular LAPL(A)/(S) training and a review of the mountain rating.



Direction de l'aviation civile

Annual Safety Review 2015

1. Introduction

The mission of the Directorate of Civil Aviation Luxembourg (DAC) is to maintain or improve aviation safety, in compliance with national and international regulations.

The objective of this annual safety review is to summarize and analyze the current situation of aviation safety in Luxembourg.

The DAC has adopted the ARMS – Aviation Risk Management Solutions methodology for the assessment of risks related to reported safety occurrences. The ARMS methodology was developed by a voluntary collaboration of aviation authorities, operators and air navigation service providers.

TOP 10 SAFETY ISSUES			Potential accident outcomes						
	Safety issue	Accident Severity	CFIT Controlled flight into terrain	LOC-I Loss of control	MAC Mid-air collision	GCOL Collision on ground	RWY-EXC Runway excursion	Injury or damage in flight	Injury or damage on ground
1	Cargo moving/shifting during flight	Catastrophic		X					X
2	Risk of MAC	Catastrophic			X				
3	Risk of collision with drone	Catastrophic			X			X	X
4	Mismatch between calculated and actual CG	Catastrophic		X			X		X
5	Engine failure or problems - single engine aircraft GA	Major		X			X	X	
6	Airspace infringement	Catastrophic			X				
7	Icing	Catastrophic		X			X	X	
8	Aircraft not correctly configured for takeoff	Catastrophic		X			X		
9	DGR handling	Catastrophic		X					
10	Technical - pressurisation system	Catastrophic	X	X					

TOP 3 GENERAL AVIATION SAFETY ISSUES			Accident outcomes						
	SI Title	Accident Severity	CFIT	LOC-I	MAC	Collision on ground	RWY-EXC	Injury or damage in flight	Injury or damage on ground
	Engine failure or problems - single engine aircraft	Major		X			X		X
	Loss of control during landing	Major					X		
	Collision with obstacle during taxi	Minor				X			

Only few occurrence reports have been received from General Aviation, other than those that involve a serious incident or accident. Because the overall list is so short, “Loss of control during landing” still appears in second place, but in fact a significant improvement has been noted compared to 2014.

Subjects

- Approach and Landing
- Occurrence Reporting
- Espaces Aériens et Activités Défense Lorraine
- Effective training to improve pilot management of startle during unexpected events
- Accident Investigation
- Case Study Accident Report

Have fun and safe flights

