



Air Accident Investigation Unit Ireland

FACTUAL REPORT

ACCIDENT

Aero AT-3 R100, G-DPEP

Birr Airfield, Co. Offaly

24 September 2014



**An Roinn Iompair
Turasóireachta agus Spóirt**

Department of Transport,
Tourism and Sport

FINAL REPORT**Foreword**

This safety investigation is exclusively of a technical nature and the Final Report reflects the determination of the AAIU regarding the circumstances of this occurrence and its probable causes.

In accordance with the provisions of Annex 13¹ to the Convention on International Civil Aviation, Regulation (EU) No 996/2010² and Statutory Instrument No. 460 of 2009³, safety investigations are in no case concerned with apportioning blame or liability. They are independent of, separate from and without prejudice to any judicial or administrative proceedings to apportion blame or liability. The sole objective of this safety investigation and Final Report is the prevention of accidents and incidents.

Accordingly, it is inappropriate that AAIU Reports should be used to assign fault or blame or determine liability, since neither the safety investigation nor the reporting process has been undertaken for that purpose.

Extracts from this Report may be published providing that the source is acknowledged, the material is accurately reproduced and that it is not used in a derogatory or misleading context.

¹ **Annex 13:** International Civil Aviation Organization (ICAO), Annex 13, Aircraft Accident and Incident Investigation.

² **Regulation (EU) No 996/2010** of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation.

³ **Statutory Instrument (SI) No. 460 of 2009:** Air Navigation (Notification and Investigation of Accidents, Serious Incidents and Incidents) Regulations 2009.



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In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No 996/2010 and the provisions of SI 460 of 2009, the Chief Inspector of Air Accidents on 24 September 2014, appointed Mr Thomas Moloney as the Investigator-in-Charge to carry out an Investigation into this Accident and prepare a Report.

Aircraft Type and Registration:	Aero AT-3 R100, G-DPEP	
No. and Type of Engines:	1 x Rotax 912S	
Aircraft Serial Number:	AT3-027	
Year of Manufacture:	2007	
Date and Time (UTC)⁴:	24 September 2014 @ 18.15 hrs	
Location:	Birr Airfield (EIBR), Co. Offaly, Ireland	
Type of Operation:	General Aviation	
Persons on Board:	Crew - 1	Passengers - Nil
Injuries:	Crew - Nil	Passengers - Nil
Nature of Damage:	Substantial	
Commander's Licence:	PPL (A) ⁵ issued by the Irish Aviation Authority (IAA)	
Commander's Details:	Male, aged 38 years	
Commander's Flying Experience:	145 hours, of which 41 were on type	
Notification Source:	Pilot	
Information Source:	AAIU Investigation. AAIU Report Form submitted by the Pilot	

⁴ UTC: Coordinated Universal Time. All timings in this report are quoted in UTC; to obtain the local time add one hour.

⁵ PPL (A): Private Pilot Licence (Aeroplane).

FINAL REPORT

SYNOPSIS

Following a normal approach to land, the aircraft ballooned and then bounced on the runway. As the aircraft became airborne again, the Pilot applied power to arrest the descent. The aircraft yawed to the left. It touched down on the grass to the left of the runway in a nose-down attitude, sustaining substantial damage.

1. FACTUAL INFORMATION

1.1 History of the Flight

The Pilot was on a routine local flight from EIBR. The weather at the time was good with a light breeze from the northwest. The Pilot reported to the Investigation that he was making a normal approach to Runway (RWY) 36. Just before landing on the grass runway, the aircraft "*ballooned*", then bounced and became airborne again. The Pilot applied power to arrest the descent, whereupon the aircraft yawed sharply to the left. The aircraft touched down again in a nose-down attitude in the grass to the left of the runway. The nose landing gear collapsed and the propeller struck the ground, **Photo No. 1**. The Pilot was not injured and he exited the aircraft in the normal manner.



Photo No. 1: Final Position of G-DPEP.

The Pilot informed the Investigation that he considered that the cause of the accident was that he did not apply enough right rudder to overcome the yaw to the left which he felt was caused by the application of power when the aircraft became airborne again after the bounce.



1.2 Damage to Aircraft

The aircraft sustained substantial damage to its nose landing gear, propeller and engine firewall.

1.3 Aircraft Information

The Polish-built Aero AT-3 R100 is classified by EASA⁶ in the CS-VLA (Certification Specification – Very Light Aeroplane) category. It is fitted with a 98.6 hp⁷ Rotax 912S engine and a three blade carbon composite propeller. It has a fixed tricycle landing gear.

2. AAIU COMMENT

The slipstream from a nose-mounted propeller flows back around an aircraft and meets the vertical stabiliser at an angle of attack which generates a sideways aerodynamic force on the stabiliser and this tends to yaw the aircraft's nose. The direction of the yaw depends on the direction of propeller rotation. The propeller on G-DPEP rotated clockwise (as viewed from the cockpit) and therefore the tendency was for the nose to yaw to the left.

An application of power increases the slipstream effect on the vertical stabiliser and this will be particularly noticeable at low airspeed. The Pilot's own analysis of the event was that he did not apply enough right rudder to counteract the left yaw generated by his application of power when the aircraft became airborne after the bounced landing.

⁶ EASA: European Aviation Safety Agency.

⁷ hp: horsepower.

In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No 996/2010, and Statutory Instrument No. 460 of 2009, Air Navigation (Notification and Investigation of Accidents, Serious Incidents and Incidents) Regulation, 2009, the sole purpose of this investigation is to prevent aviation accidents and serious incidents. It is not the purpose of any such investigation and the associated investigation report to apportion blame or liability.

A safety recommendation shall in no case create a presumption of blame or liability for an occurrence.

Produced by the Air Accident Investigation Unit

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