



Air Accident Investigation Unit Ireland

FACTUAL REPORT

SERIOUS INCIDENT

**Paramania Revo 2
Kilshanroe, Co. Kildare**

30 August 2017



**An Roinn Iompair
Turasóireachta agus Spóirt**
Department of Transport,
Tourism and Sport

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.



AAIU Report No: 2018 - 010
State File No: IRL009017051
Report Format: Factual Report
Published: 14 June 2018

In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No 996/2010 and the provisions of SI No. 460 of 2009, the Chief Inspector of Air Accidents on 30 August 2017, appointed Howard Hughes as the Investigator-in-Charge assisted by Kate Fitzgerald to carry out an Investigation into this Serious Incident and prepare a Report.

Aircraft Type and Registration:	Paramania Revo 2, unregistered
No. and Type of Engines:	1 x Polini Thor 110
Aircraft Serial Number:	Not Applicable
Year of Manufacture:	2015
Date and Time (UTC)⁴:	30 August 2017 @ 15.15 hrs
Location:	Near Kilshanroe, Co. Kildare
Type of Operation:	General Aviation
Persons on Board:	Crew - 1
Injuries:	Crew - Nil
Nature of Damage:	Substantial
Commander's Licence:	Unlicensed
Commander's Age:	36 years
Commander's Flying Experience:	80 hours, of which 30 were on type
Notification Source:	Report from a member of the public followed by a Pilot Report
Information Source:	AAIU Report Form submitted by the Pilot ESB Networks Report Fire Service Report

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

SYNOPSIS

At approximately 15.15 hrs on 30 August 2017, the Foot Launched Powered Aircraft (FLPA) departed from a field near Kilshanroe, County Kildare with one Pilot on board. Shortly after take-off the engine of the FLPA stopped. In order to avoid residential buildings and electricity lines ahead, the Pilot turned left. During the manoeuvre, the wing of the FLPA struck and became entangled in further electrical lines, causing a short circuit and a power outage in the local area. The Pilot unfastened his harness and dropped to the ground. The Pilot reported that he was uninjured.

NOTIFICATION

The AAIU were initially notified of this occurrence by a member of the public. The AAIU then made enquiries with national paramotoring and paragliding associations, and through these enquiries were able to make contact with the Pilot. The Pilot subsequently completed and submitted an AAIU Report Form.

1. FACTUAL INFORMATION

1.1 History of the Flight / Occurrence

At approximately 15.15 hrs on 30 August 2017, the FLPA with the Pilot on board departed from a field near Kilshanroe, County Kildare. The Pilot, who was visiting Ireland, was undertaking a leisure flight. Shortly after take-off, at approximately 30 metres (m) above ground level, the engine cut out. The Pilot attempted a forced landing. He turned left, avoiding nearby residences and visible electricity lines ahead of him. However, the Pilot did not observe a second set of electricity lines which were obscured from view by trees. By the time the Pilot had seen the lines, the FLPA was at too low an altitude to avoid a collision. The FLPA struck and become entangled in 20 kV electricity lines, causing two fuses which controlled that section of the network to blow. This de-energised the lines and caused a power outage in the local area. The Pilot unfastened his harness and dropped to the ground, uninjured. Emergency services arrived at the scene and secured the site until the electricity network operator arrived.

1.2 Investigation

The occurrence was not initially reported by either the Pilot or witnesses. By the time the occurrence was reported a significant amount of time had elapsed and a field investigation was not possible. A desk investigation was undertaken using information supplied by the Pilot, the electricity network operator and the emergency services.

1.3 Airfield Information

FLPAs do not require designated airfields for operations and can use any field with the landowner's permission and due regard for public safety. In this case the FLPA departed from a field near Kilshanroe, Co. Kildare.



1.4 Aircraft Information

The aircraft, which was owned by the Pilot, was an FLPA manufactured in 2015. It comprised a Paramania Revo 2 wing and was powered by a Thor Pollini 110 engine.

The FLPA, which was not based in Ireland was not registered. In Ireland FLPA are required to be registered. However, this is not the case in all states. A similar FLPA is shown in **Photo No. 1**.



Photo No. 1: Example FLPA

1.4.1 Damage to Aircraft

The AAIU was unable to examine the FLPA following the event as the Pilot had already returned home taking the FLPA with him. The Pilot reported that during the occurrence, the wing of the FLPA was torn and the frame was bent. **Photos No. 2** and **3**⁵ show the parachute entangled in the electricity wire and the engine and frame on the ground.

⁵ Photographs 2 and 3 courtesy of ESB Networks



Photo No. 2: FLPA wing in electricity lines



Photo No. 3: FLPA engine and harness

1.4.2 Engine Failure

5

The cause of the engine stoppage was not determined. The Pilot informed the Investigation that after the occurrence he carried out checks on the engine which included exchanging a fuel line, and a strip and assembly of the carburettor. Following this maintenance the engine ran successfully. The Pilot informed the Investigation that he thought the stoppage during the occurrence flight may have been caused by a carburettor problem.

1.5 Damage to Electricity Network

The electricity network operator arrived at the scene shortly after the event occurred. The operator ascertained that when the FLPA struck the wires, the two fuses which controlled that section of the network blew, de-energising the lines and causing a local power outage. The electricity lines did not break and there was no permanent damage to the electricity network.

1.6 Pilot Information

The Pilot of the FLPA was not an Irish resident. The Pilot had previous experience of flying FLPAs in other EU states, but did not have an FLPA Pilot Licence.

1.7 FLPA Regulation in Ireland

The Irish Aviation Authority (IAA), "*Nationality and Registration of Aircraft Order, 2015*" (SI No. 107 of 2015) requires that; "*all manned aircraft operating within the state shall be properly registered either in this state or in an ICAO contracting state*".



In July 2016, the IAA provided further clarity on the registration requirements for FLPAs in Aeronautical Notice G.13 which states that; *“Where an aircraft comprises a paraglider, parawing, parachute, foil, canopy or other lifting device, and is operated under power, it is not considered a glider and the requirements of the order [SI No. 107 of 2015] apply”*.

In Ireland, S.I. No. 333 of 2000, *“Irish Aviation Authority (Personnel Licensing) Order, 2000”* (as amended) requires FLPA Pilots to hold a Pilot Licence. However, the IAA informed the Investigation that there are currently no technical requirements specified for an FLPA pilot licence and that an exemption system⁶ is currently in operation. In order to obtain an exemption the IAA stated that;

“.....the applicant must undergo a course of ground (Theoretical Knowledge) and flight training which is set out in an appropriate syllabus. This training will need to be obtained at a Registered Training Facility (RTF) approved by the IAA for that purpose. Flight training covers normal and emergency procedures in general handling and cross-country navigation exercises. A minimum of 15 hours total flight time must be obtained, which must include 5 hours of solo time and the required qualifying solo cross country flight.

Ground training covers airframe or canopy and engine technical knowledge, aircraft performance, meteorology (weather), navigation theory and flight planning, air law (Rules of the Air) and Human Performance & Limitations (the medical, physical and psychological aspects of flying).

Typically, applicants used UK based schools to provide the training and exams and a BHPA qualification card would be presented as evidence as completion of same. A valid medical certificate of at least LAPL level is required. A small number of these are issued each year”.

In accordance with IAA notice P21, *“Acceptance of Flight Crew Licences”*, pilots who obtain their Pilot licence in another state must notify the IAA and provide details of their licence and experience before flying an FLPA in Ireland. The Investigation notes that the regulations relating to registration and licencing of FLPA are not consistent across Europe.

1.8 Previous occurrences

The AAIU has investigated numerous wire strike events including the subject occurrence. Pertinent information relating to the topic of wire strikes can be found in AAIU report [2017-014](#) which describes an occurrence involving a Robinson R44 helicopter which struck electricity lines during landing. In 2010, the IAA launched a wire strike awareness campaign following a Safety Recommendation from the AAIU (IRLD2010015) which arose from an Investigation⁷ into a fatal wire strike accident, which occurred in 2009. In addition, the IAA published a Safety Leaflet, IGA 6, entitled *“Wire Strikes – The hazard to Aviation”*.

⁶ The Investigation noted that the IAA intends to replace the exemptions system with a Private Pilot Licence for FLPA Pilots and a public consultation was held on this topic in late 2017.

⁷ AAIU Report No. [2010-009](#), published 5 August 2010.

2. AAIU COMMENT

Wire strikes have been the cause of numerous accidents, often with fatal consequences. Electricity wires are difficult to detect from the air due to both the camouflage effect of background scenery and the limitations of the human eye. In this occurrence, wires in the vicinity of the launch site were obscured by trees and could not be identified. The IAA-issued safety leaflet IGA6 provides information for general aviation pilots on the hazards posed by electricity lines and strategies for reducing the risk. General Aviation pilots should regularly review safety leaflets produced by aviation authorities and take appropriate mitigating actions.

Paramotoring and paragliding are popular leisure activities in Ireland. However, pilots must be aware that many of the rules and regulations which apply to aircraft also apply to FLPA. This includes regulations relating to registration, licensing and reporting of accidents and incidents. In addition, whilst many aviation regulations are harmonised across Europe, there are still some national differences. Pilots are reminded of the need to review the aviation regulations in force in each of the countries that they plan to fly, and to ensure that they, and their equipment, are appropriately licensed and registered according to the regulations of each country.

- END -

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

AAIU Reports are available on the Unit website at www.aaiu.ie



**An Roinn Iompair
Turasóireachta agus Spóirt**
Department of Transport,
Tourism and Sport

Air Accident Investigation Unit,
Department of Transport Tourism and Sport,
2nd Floor, Leeson Lane,
Dublin 2, D02TR60, Ireland.
Telephone: +353 1 604 1293 (24x7): or
+353 1 241 1777 (24x7):
Fax: +353 1 604 1514
Email: info@aaiu.ie
Web: www.aaiu.ie