



Air Accident Investigation Unit Ireland

SYNOPTIC REPORT

ACCIDENT

**Ozone Magnum Paraglider
Near Lough Bray Lower, Co. Wicklow
18 April 2014**



**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: 2015 - 002
State File No: IRL00914027
Report Format: Synoptic Report
Published: 16/02/2015

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 18 April 2014, appointed Mr Paul Farrell as the Investigator-in-Charge to carry out an Investigation into this Accident and prepare a Report.

Aircraft Type and Registration:	Ozone Magnum Paraglider	
No. and Type of Engines:	Nil	
Aircraft Serial Number:	Mag 41K 28E 004	
Year of Manufacture:	2009	
Date and Time (UTC)⁴:	18 April 2014 @ 14.00 hrs	
Location:	Near Lough Bray Lower, Co. Wicklow	
Type of Operation:	Commercial Air Transport	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - 1	Passengers - 1
Nature of Damage:	Nil	
Commander's Licence:	Tandem Paraglider Pilot issued by the British Hang Gliding and Paragliding Association	
Commander's Details:	Male, aged 34 years	
Commander's Flying Experience:	284 hours, of which 74 were on type	
Notification Source:	Media enquiry	
Information Source:	AAIU Report Form submitted by Pilot	

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

SYNOPSIS

During a paragliding flight near Lough Bray, Co. Wicklow, the paraglider encountered very heavy turbulence. The wing collapsed and during recovery, due to continued instability of the airflow, the wing collapsed twice more. During the final recovery, having lost too much height, the occupants impacted terrain whilst flying forward. Both the pilot and passenger suffered serious injuries.

NOTIFICATION

The AAIU first became aware of the accident following a media enquiry on the evening of the occurrence. The AAIU subsequently made contact with Mountain Rescue and An Garda Síochána personnel who dealt with the occurrence. The AAIU also spoke with the Pilot and the Passenger.

1. FACTUAL INFORMATION

1.1 History of the Flight

The Passenger had purchased a flight coupon on the internet for a paraglider flight. He contacted the Pilot to arrange to use the flight coupon to avail of a flight. The Passenger met with the Pilot, by arrangement, at a car park in the vicinity of Lough Bray Lower. They hiked to a ridge overlooking the lake. The paraglider incorporated a tandem seating arrangement, with the Passenger's harness in front of the Pilot. The Pilot had completed a thirty minute flight with a different passenger earlier on the day of the accident.

For the accident flight, the paraglider was launched from the edge of the ridge, roughly perpendicular to the local wind direction. The flight involved soaring back and forth along the ridge line. The Pilot informed the Investigation that he encountered the most aggressive turbulence that he had experienced in fourteen years of flying and that conditions were beyond his prowess. The Pilot said that the wing collapsed due to the turbulence. He attempted to recover, but due to continuing turbulence and instability the wing collapsed twice more. The Pilot believed that the wing was actually recovering from the final collapse when, due to loss of height caused by the successive collapses, he impacted terrain with forward speed.

Both the Pilot and the Passenger were seriously injured. Mountain Rescue personnel attended the scene and rendered assistance. An Garda Síochána personnel provided traffic control on nearby roads but did not attend the scene. The Pilot was deemed to be the most seriously hurt and was airlifted to hospital by Coastguard helicopter. Subsequently, as the passenger was being escorted back towards the car park by Mountain Rescue personnel, his condition deteriorated and the Coastguard helicopter returned to take him to hospital.



1.2 Weather Conditions

The Pilot informed the Investigation that the wind direction was East to Southeast with wind speed gusting between twelve and twenty two kilometres per hour. Visibility was excellent with some cumulus cloud present. The Pilot said that the gusting wind indicated the presence of thermal cycles which he said made for ideal, free flying conditions.

The Pilot stated that turbulence/instability is liable to occur in mountainous regions on sunny days. He said that encountering such turbulence/instability was not uncommon. However, he said that it was “quite uncommon” for sustained instability to cause repeated collapsing of the wing during recovery.

1.3 Nature of Flight

The Pilot informed the Investigation that the flight was a training flight. The Passenger, who is himself a Private Pilot Licence holder, informed the Investigation that the flight was simply an experience flight and that he had not joined or enrolled with any club or training establishment prior to the flight.

1.4 Regulatory Environment

The Irish Aviation Authority (IAA) published Aeronautical Notice O.72, Issue 1, on 3 January 2014. This notice states:

The Irish Aviation Authority in pursuance of its powers as set out in the Irish Aviation Authority (Operations) Order, 2006, Article 4(1) hereby directs that, where a flight in any aircraft is carried out involving the carriage of a member of the public and that person makes a payment of any kind to the aircraft owner/ operator, the flight shall be deemed to be a commercial air transport flight.

This shall include flights such as ‘Pleasure Flights’ or ‘Air Experience Flights’ whether or not a person has entered into a contract with the aircraft owner/ operator by purchasing a ticket directly or via the purchase of a flight coupon or voucher from a third party or organisation.

For an organisation to be in a position to carry out commercial air transport flights they must have been issued with an Air Operator Certificate ...

... Introductory/Trial Flying Lessons carried out by an Approved Training Organisation, in the case of EASA Part FCL licences or a Registered Training Facility operating under an Irish National approval for National licences, shall be deemed not to be for the purpose of commercial air transport ...

...Additionally, such training flights shall only be carried out in an aircraft holding a Flight Permit issued by the Irish Aviation Authority.

The Investigation asked the IAA to expand on the regulatory framework for paragliding in Ireland.

The IAA provided the following information:

The regulations governing the operation of paragliders for private use in Ireland are contained in several Statutory Instruments namely:

- S.I. No. 634 of 2005 IRISH AVIATION AUTHORITY (NATIONALITY AND REGISTRATION OF AIRCRAFT) ORDER, 2005
- S.I. No. 333 of 2000 IRISH AVIATION AUTHORITY (PERSONNEL LICENSING) ORDER, 2000

For the purpose of these Statutory Instruments the definition of “Glider” that applies is found in STATUTORY INSTRUMENTS - S.I. No. 634 of 2005 IRISH AVIATION AUTHORITY (NATIONALITY AND REGISTRATION OF AIRCRAFT) ORDER, 2005 which states:

(3) The provisions of this Order shall not apply to kites, captive balloons not in use for carrying passengers, pilot balloons used exclusively for meteorological purposes or to unmanned free balloons without a payload or to gliders with a maximum structural mass of 80 kilograms or less flown within the territory or airspace of the State and not in use for commercial transport

5

“commercial transport aircraft” means an aircraft used or intended to be used by the operator for the purpose of carrying passengers or cargo for which purpose payment is required to be made or promised to the operator or, in a case where the carriage is effected by an air transport undertaking, whether for payment or not;

“glider” means a heavier-than-air aircraft deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight;

STATUTORY INSTRUMENT S.I. No. 333 of 2000 IRISH AVIATION AUTHORITY (PERSONNEL LICENSING) ORDER, 2000 states:

“club” means a club registered under the Registration of Clubs Acts (1904 to 1995) or incorporated as a limited company under the Companies Acts by Certificate of Incorporation and which, in either case, shall be managed by a committee elected by all the members for a period of not less than one year and which is subject to periodic re-election;



“club member” means, for the purposes of this Order, a person who has applied for membership of the club concerned and whose application for membership was made available for inspection by existing members of that club during a period agreed by the members and who has been accepted as a member at a meeting of the club’s committee or members’ body;

“commercial air transport operation” means an aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire;

“commercial transport aircraft” means an aircraft carrying passengers or cargo or reward or, if the carriage is effected by an air transport undertaking, whether for remuneration or hire or not;

“duly authorised instructor” means a person who holds a current pilot licence which includes a flight instructor rating or authorisation issued or validated by the Authority (including a JAA flight crew licence with an instructor rating or authorisation) and entitling that person to give instruction in flying the class or classes and type or types of aircraft covered by such rating in accordance with the privileges and limitations of the particular flight instructor rating held;

“glider” means a non-power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight;

S.I. No. 333 of 2000 Article (3) states:

In relation to the carriage of a person in an aircraft for the purpose of undergoing instruction, payment shall be deemed to be made for the instruction if any sum is paid or payable in respect of the particular flight by any person either to the instructor or to any person by whom the instructor is employed or contracted as an instructor, or if the instructor is employed for reward to instruct persons in flying aircraft.

S.I. No. 333 of 2000 Article (2) states:

references to carriage for hire or reward include references to-

(a) the carriage of persons in an aircraft for the purpose of undergoing instruction in flying for which payment is made;

(b) the carriage of persons or cargo in an aircraft for remuneration; provided that, as respects clause (a) of this paragraph the carriage of a member of a flying club for the purpose of such instruction, by a fellow club member who is a duly authorised instructor, in an aircraft owned by or operated under a lease arrangement entered into by the club, shall not, by reason only of payment for such instruction, be deemed, for the purposes of this Order, to be carriage for remuneration or hire.

S.I. No. 333 of 2000 Flight Crew Members to be Licensed Article 5 states:

(1) Subject to the provisions of this Order, a person shall not act as a flight crew member of an aircraft registered in the State unless that person is the holder of an appropriate licence issued or validated by the Authority, or a JAA licence.

S.I. No. 333 of 2000 Para. (13) further states:

This Article (i.e. the requirement for a pilot licence) shall not apply to a person acting as pilot of a glider which is being flown as a private aircraft.

7
According to the extracted regulations, the paraglider, when operated as a “private aircraft” enjoys an exemption from the requirements for aircraft registration and related airworthiness standards (i.e. “gliders with a maximum structural mass of 80 kilograms or less flown within the territory or airspace of the State and not in use for commercial transport”) and also an exemption from the requirement for a pilot licence (“i.e. This Article shall not apply to a person acting as pilot of a glider which is being flown as a private aircraft”)

Paragliders, when used for “commercial air transportation” or “hire and reward” do not enjoy these exemptions and therefore the aircraft must be registered and the pilot must hold an appropriate licence.

Equally, paragliders when used for training (for payment or valuable consideration) do not enjoy these exemptions except where such training is conducted as member of a flying club according to the definitions and requirements in the Personnel Licensing Order.

For completeness, the Investigation notes that IAA Notice O.72 Issue 2 was published on the IAA website on 8 January 2015 and states “AERONAUTICAL NOTICE NR 0.72 (Issue 1) – “*THE OPERATION OF AN AIRCRAFT FOR THE PURPOSE OF CONDUCTING PLEASURE FLIGHTS, AIR EXPERIENCE FLIGHTS OR INTRODUCTORY / TRIAL FLYING LESSONS*” is hereby cancelled”.



1.5 Injuries

Injuries	Crew	Passengers	Others
Fatal			
Serious	1	1	
Minor /None			

The Pilot sustained a concussion, several pelvic fractures, a dislocated shoulder and a compound fracture of the humerus which required surgery.

The passenger suffered two broken ribs, a punctured lung and a fractured bone in his hand.

2. ANALYSIS

Both the Pilot and the Passenger suffered serious injuries in this accident. Whilst the Pilot classified the flight as a training flight, no formal IAA flying club approval existed. Therefore the flight could not be considered a private flight under existing legislation.

In light of the apparently anomalous nature of this flight, the Investigation makes a recommendation to the IAA regarding the promulgation of an advisory memorandum giving suitable guidance to operators of paragliders for other than “private use”.

Safety Recommendation No. 1

The IAA should review paraglider flying in relation to compliance with the applicable Statutory Instruments, consider promulgating an advisory memorandum giving suitable guidance to operators of paragliders for other than “private use” and also consider if additional education and enforcement activities are required to ensure awareness of, and compliance with, the relevant statutory provisions.

(IRLD2015004)

3. CONCLUSIONS

(a) Findings

1. The flight was arranged following the purchase of a flight coupon on the internet.
2. The paraglider encountered very, heavy turbulence/instability.
3. Due to the sustained nature of the turbulence/instability there were successive wing collapses.
4. The Pilot said that it was “quite uncommon” for sustained instability to cause repeated collapsing of the wing during recovery.

5. The paraglider lost height as the Pilot was attempting to re-inflate the wing.
6. The paraglider impacted terrain with forward speed.
7. Both the pilot and the passenger suffered serious injuries and each was air lifted to hospital.
8. The flight could not be considered a private flight under existing legislation.

(b) Probable Cause

1. Successive paraglider wing collapses due to an encounter with heavy turbulence /instability.

(c) Contributory Cause(s)

1. Insufficient height to fully recover paraglider wing inflation.

4. SAFETY RECOMMENDATIONS

No.	It is Recommended that:	Recommendation Ref.
1.	The IAA should review paraglider flying in relation to compliance with the applicable Statutory Instruments, consider promulgating an advisory memorandum giving suitable guidance to operators of paragliders for other than "private use" and also consider if additional education and enforcement activities are required to ensure awareness of, and compliance with, the relevant statutory provisions.	IRLD2015004

[View Safety Recommendations](#) for Report 2015-002

- 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
Turasoireachta agus Spóirt**

**Department of Transport,
Tourism and Sport**

Air Accident Investigation Unit,
Department of Transport Tourism and Sport,
2nd Floor, Leeson Lane,
Dublin 2, Ireland.

Telephone: +353 1 604 1293 (24x7): or
+353 1 241 1777

Fax: +353 1 604 1514

Email: info@aaiu.ie

Web: www.aaiu.ie