

Air Accident Investigation Unit Ireland

FACTUAL REPORT

ACCIDENT

**Axis Comet 3 Paraglider
Nine Stones, Mt. Leinster, Co. Carlow**

9 July 2022



An Roinn Iompair
Department of Transport

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 No. 460 of 2009, the Chief Inspector of Air Accidents, on 13 July 2022, appointed Howard Hughes as the Investigator-in-Charge to carry out an Investigation into this Accident and prepare a Report.

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|------------------------------------|---|
| Aircraft Type and Registration: | Axis Comet 3 Paraglider, Nil |
| No. and Type of Engines: | None |
| Aircraft Serial Number: | 16704306L (Canopy Serial Number) |
| Year of Manufacture: | 2017 |
| Date and Time (UTC) ⁴ : | 9 July 2022 @ 17:43 hrs |
| Location: | Nine Stones, Mt. Leinster, Co. Carlow, Ireland |
| Type of Operation: | General Aviation |
| Persons on Board: | Crew – 1 Passengers – Nil |
| Injuries: | Crew – 1 |
| Nature of Damage: | Nil |
| Commander's Licence: | Paragliding Licence Issued by <i>Letecká Amatárska Asociácia</i> (LAA SR), (Slovak Air Amateur Association) |
| Commander's Age: | 41 years |
| Commander's Flying Experience: | Approximately 170-210 hours |
| Notification Source: | An Garda Síochána ⁵ |
| Information Source: | AAIU Report Form submitted by the Pilot |

⁴ UTC: Co-ordinated Universal Time. All times in this report are quoted in UTC unless otherwise stated; local time was UTC + 1 hour on the date of the accident.

⁵ The national Police and Security Service of Ireland.

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SYNOPSIS

The paraglider was launched from a point approximately 600 m north-west of the Nine Stones car park, adjacent to Mt. Leinster, Co. Carlow, Ireland, and was subsequently flown to an area east of the car park. As the paraglider was north-east of the car park, flying in a south-westerly direction, parallel to the road leading to the car park, it performed a sharp left turn, which was towards the up-slope of the hill. The Pilot impacted with terrain just to the south of the road and sustained serious back injuries.

NOTIFICATION AND RESPONSE

The AAIU was notified of the accident by An Garda Síochána (AGS) at 19:35 hrs. As the Pilot was in the process of being airlifted to hospital, and the paraglider equipment had been secured by AGS, the AAIU did not deploy to the accident site. The Investigation later took possession of the paraglider and harness, and commenced an Investigation.

1. FACTUAL INFORMATION

1.1 History of the Flight

During the accident flight the Pilot was using a variometer, which is a portable instrument used to provide him with information on, amongst other things, climb, descent, forward speed, and location. The variometer also had a data recording facility. The Pilot forwarded the data from the variometer to the Investigation, which was used to reconstruct the history of flight.

At 16:32 hrs, the paraglider was launched from a point approximately 600 metres (m) northwest of the Nine Stones car park. The flight lasted for just over one hour, during which the paraglider was flown between Slievebawn and an area approximately 600 m east of the car park (**Figure No.1**).

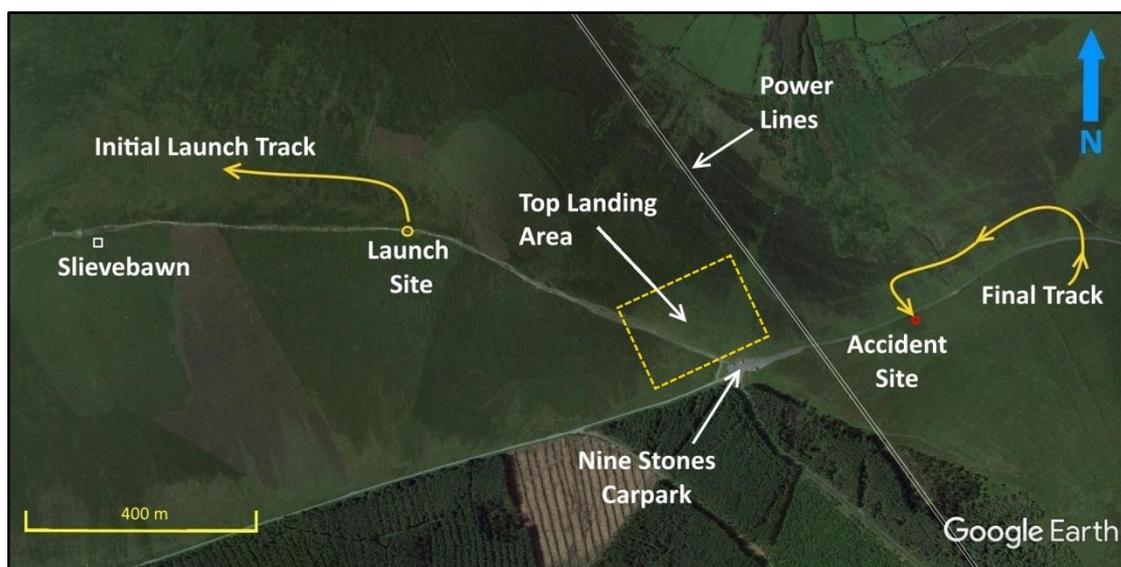


Figure No. 1: Diagram showing relevant features of the area in which the flight took place



During the final eight minutes of the flight, the paraglider was on a descending flight path and in the last minute prior to impact the paraglider turned onto a south-westerly track, towards the top landing area. The paraglider then tracked parallel to the road leading to the car park.

At 17:43 hrs, when he was approximately 10 m above the level of the road, and approximately 300 m east of the landing area, the Pilot performed a sharp left turn. During the turn the recorded speed of the variometer increased to approximately 73 km/h⁶.

The Pilot impacted sloping terrain that was above, and to the south of, the road.

1.2 Injuries to Persons

The Pilot sustained serious back injuries, and was airlifted to hospital.

1.3 Information Provided by the Pilot

The Pilot informed the Investigation that, having not flown since February 2022, he decided to fly his paraglider on 9 July 2022. He undertook a flight earlier in the day, at 16:08 hrs. However, it was a short flight, in what the Pilot described as '*weak weather conditions*⁷'. The Pilot noted that as conditions slightly improved later on, he observed more than seven other paraglider pilots either flying or getting ready to fly, and elected to launch for a second flight.

He stated that he took off at 16:32 hrs, but that after about an hour, whilst flying to the east of the car park, conditions weakened again, and he decided to return to the top landing area next to car park at Nine Stones. He informed the Investigation that during the approach towards the landing area the sink rate increased and that he couldn't achieve the minimum altitude to fly above power lines that were located between his location and the landing area.

He told the Investigation that he therefore decided to land on the slope, but to complete this he wanted to turn 180° to land into the wind which he estimated to be between northerly and north-easterly. The Pilot stated that he initially turned slightly right, to increase his distance from the slope, in order to have sufficient clearance for a full turn, before he then turned left towards to slope.

However, he noted that as he commenced the left turn, instead of the expected lift of +0.5 to +1 m/s⁸, and an approximate forward speed of 30 km/h, he entered sinking air of about -4 m/s which he said '*instantly increased his forward speed to approximately 70 km/h and the glider dived forward and down*'.

The Pilot informed the Investigation that he applied wing-brakes, but that due to the sudden acceleration of the paraglider there was not enough space to manoeuvre. He said that he tried to avoid a collision with the road, and selected the grass covered slope just beyond the road, for an emergency landing.

⁶ **km/h**: Kilometres per hour.

⁷ The Pilot informed the Investigation that '*weak weather conditions*' referred to the fact that he was not obtaining the expected lift from the slope he was flying on.

⁸ **m/s**: metres per second.

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The Pilot further stated that shortly before impact he applied the wing-brakes again, to minimise his forward speed. The Pilot informed the Investigation that his momentum caused him to swing forward as the paraglider canopy slowed down, and he impacted the ground, which resulted in severe back injuries. He stated that other pilots came to his assistance and notified the ambulance, mountain rescue and An Garda Síochána.

The Pilot informed the Investigation that following the accident he noted that the actual wind direction on the surface had changed and was now westerly at a speed of approximately 1-2m/s (2-4 knots (kt)).

The Pilot's own assessment of what may have caused the Accident was that he '*wrongly assessed distance from the slope and didn't take into account the possibility of changes of wind direction so late in the afternoon*'.

1.4 Witness

A number of other paraglider pilots were operating in the area at the time of the accident. The Investigation spoke to one pilot, who was flying above the accident paraglider. He stated that he observed the accident paraglider prior to the accident, and noted that it was flying in an east-west direction, towards the car park, at a height that appeared to be nearly level with the road to the car park. The witness believed that at this height the accident paraglider would not be able to clear the power lines close to the car park. He observed the accident paraglider performing a sharp left turn towards the hillside, approximately 200 m to the east of the carpark.

1.5 Damage to Paraglider

The Investigation examined the paraglider wing, control lines, and harness with the assistance of a subject matter expert, and did not identify any damage that might have contributed to the accident.

1.6 Pilot Flying Experience

On 7 June 2012, the Pilot obtained a paragliding licence (issued by the LAA SR). He held an International Pilot Proficiency Identity (IPPI) card issued by the Fédération Aéronautique Internationale (FAI). The Pilot had been a member of the Irish Hang-glider and Paragliding Association (IHPA) since 2013. At the time of the accident he held a '*Para Pro 3*' rating, i.e. had demonstrated the practical tasks and knowledge necessary to fly without being under the supervision of an instructor.

The Pilot informed the Investigation that he did not keep an exact log of his flight time on paragliders, but estimated that he had between 170 and 210 hours total time. Of this, between 60 and 80 hours were on the Axis Pluto 2 EN-A⁹ paraglider for the period 2012 to 2017, and between 110 and 130 hours were on the Axis Comet 3 EN-B paraglider, for the period 2017 to present.

⁹ **EN-A:** European Norm (EN) paraglider certification is a system whereby paraglider canopies are certified in one of four classes – A, B, C, or D, with 'A' being beginner-friendly and 'D' being intended for highly skilled pilots.



1.7 Meteorological Information

At 10:00 hrs on the day of the accident, the Pilot obtained a weather forecast from a proprietary source prior to going to the Mt. Leinster area. This indicated that the wind would be from the north at 3-5 m/s (6-10 kt), with a cloud base of approximately 3,000 feet (ft). He also noted on arrival to the area, that the actual weather conditions at the flying site were very similar to the forecast conditions.

Met Éireann, the Irish Meteorological Service, provided the Investigation with an aftercast for the Nine Stones area, for 18:00 hrs on the day of the accident. This gave a cloud base of between 3,000 and 3,500 ft, and the wind on the surface as variable, at 4-7 kt. The aftercast stated that the wind at 2,000 ft was between northwest and east, at 5-10 kt.

2. AAIU COMMENT

The paraglider was launched to the west of the Nine Stones car park, adjacent to Mt. Leinster. A set of overhead power lines, running south-east to north-west, is located immediately to the east of the car park. The Pilot then flew to an area east of the car park and the power lines. During the last few minutes of the flight, the paraglider was on a descending profile, and the Pilot elected to turn back towards the top landing area.

Upon realising that he was not going to clear the power lines, the Pilot attempted to land on the slope to the east of the power lines. In the belief that the wind was from the north to north-east, he attempted a 180° turn to the left, in order to land more into wind.

During the turn, there was an increase in descent rate, and forward speed of the paraglider. In an attempt to arrest the forward speed, the Pilot applied the wing-brakes. However, due to momentum, the Pilot swung forward under the canopy, impacting the up-sloping ground on the southern side of the road leading to the car park. Following the accident, the Pilot noted that the wind on the surface had changed to a more westerly direction. Given the profile of the terrain to the west of the accident site, it is possible that the change in the local wind conditions may have contributed to the increased descent rate experienced by the Pilot as he turned left, prior to impact. The Pilot sustained serious back injuries.

Paragliding often takes place in remote areas. However, in this instance, the Pilot had chosen to fly in an area where there were a number of other paraglider pilots flying, who, having observed the accident, were able to render assistance and alert the rescue services. The AAIU has previously reported on accidents where the pilots concerned had not notified others of their intentions, resulting in a delay before the location of the accident was determined.

The Investigation notes the advice issued to pilots by the IHPA:

'Let someone know where you are at all times

Whether you are simply ridge soaring alone or with friends, or planning to fly XC [cross country], make sure that someone you trust knows where you are at all times who can raise the alarm if you don't return home as expected. If you are unlucky enough to be injured and unable to call for help, a mobile phone based tracking app could just save your life. There are many apps to choose from, but whichever one you choose to use, make sure that your friend or partner knows how to use it and what to do if you don't check in by an agreed time.'

- 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.

Produced by the Air Accident Investigation Unit

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



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