



Air Accident Investigation Unit Ireland

FACTUAL REPORT

ACCIDENT

HATZ CB1, G-BRSY

Coonagh Airfield (EICN)

21 April 2018



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.



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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 21 April 2018, appointed Kate Fitzgerald as the Investigator-in-Charge to carry out an Investigation into this Accident and prepare a Report.

Aircraft Type and Registration:	HATZ CB-1, G-BRSY	
No. and Type of Engines:	1 x Lycoming O-290-D2	
Aircraft Serial Number:	6	
Year of Manufacture:	1978	
Date and Time (UTC)⁴:	21 April 2018 @ 16.15 hrs	
Location:	Coonagh Airfield (EICN)	
Type of Operation:	General Aviation	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - Nil	Passengers - Nil
Nature of Damage:	Substantial	
Commander's Licence:	Private Pilot Licence (PPL) Aeroplanes (A), issued by the Irish Aviation Authority (IAA)	
Commander's Age:	61 years	
Commander's Flying Experience:	867 hours, of which 95 were on type	
Notification Source:	Flying instructor at EICN Pilot of G-BRSY	
Information Source:	AAIU Report Form submitted by the Pilot	

⁴ **UTC:** Co-ordinated Universal Time. All timings in this report are quoted in UTC; Local time was UTC + 1 hour on the date of the accident.)

SYNOPSIS

On roll-out following a normal touchdown at Coonagh Airfield, Limerick (EICN), the HATZ CB-1 aircraft, with the Pilot and one passenger on board, tracked to the left and departed the paved runway surface. The left wheel sank into the soft grass at the edge of the runway. The front of the aircraft pitched down, causing the propeller to strike the grass and the aircraft to subsequently invert. There were no injuries.

NOTIFICATION

The AAIU was notified of this accident by a flying instructor at EICN and also by the Pilot.

1. FACTUAL INFORMATION

1.1 History of the Flight

The aircraft with the Pilot and one passenger on board departed a private airfield near Kilkenny at approximately 15.20 hrs. The aircraft flew to EICN and touched-down normally. On the landing roll-out the aircraft, which was experiencing light crosswinds from the left, tracked to the left and departed the paved runway surface. The runway was bounded by soft grass and when the left wheel of the aircraft rolled onto the grass, it sank and dug in. The front of the aircraft then pitched down and the propeller struck the grass with the engine at idle power. From photographic evidence it appears that on the fifth strike the propeller also struck the edge of the asphalt runway (**Photo No. 1**). The aircraft then inverted, coming to rest on the upper wing of the biplane and the aircraft tail. Both the Pilot and the Passenger exited the aircraft uninjured.

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Photo No. 1: Propeller strike marks



1.2 Aircraft Information

The HATZ CB-1 is a light biplane designed in the 1960s for amateur construction. G-BRSY was completed in 1978 (**Photo No. 2**). It had a tailwheel configuration and was fitted with a Lycoming O-290-D2 engine. The aircraft '*Permit to Fly - Certificate of Validity*' for the aircraft was issued by the UK Light Aircraft Association (LAA) on 25 October 2017.

Irish Aviation Authority (IAA) Aeronautical Notice A.19, Issue 8 sets out the conditions under which foreign-registered aircraft, may be flown within Ireland. Generally, aircraft which are operated on flight permits (rather than Certificates of Airworthiness) may only visit Ireland for periods of less than 28 days. In this specific case, the UK registered aircraft was permitted to fly within Ireland for an unlimited duration due to the fact that it was registered to an address in Northern Ireland.



Photo No. 2: The HATZ CB-1

1.3 Damage to Aircraft

The aircraft suffered substantial damage during the occurrence. The tips of both propeller blades were broken when the propeller struck the ground and it is likely that the aircraft engine was shock-loaded as a result. The front cowling of the engine sustained impact damage when the aircraft tipped forward. Also, the tip of the starboard upper wing was bent (**Photo No. 3**), and the strut connecting the port-side upper and lower wing buckled (**Photo No. 4**).



Photo No. 3: Damage to starboard wing tip



Photo No. 4: Damage to starboard wing strut

1.4 Meteorological Information

The Pilot reported to the Investigation that the weather conditions at the time of the occurrence were dry, with greater than 10 kilometres (km) visibility and a 9 knots (kts) wind from 200° Magnetic.

1.5 Pilot Information

The Pilot held a PPL(A) issued by the IAA which was valid until July 2018. He also held a Class 2 medical certificate which was valid until October 2018. The Pilot had 867 hours flying experience, of which 95 hours were on the occurrence type.



1.6 Airfield Information

Coonagh Airfield is a privately-owned airfield close to Limerick City. The airfield has an asphalt runway which is 416 metres (m) long and 9 m wide. The runway is surrounded by grass, which at the time of the occurrence was soft due to recent inclement weather conditions.

1.7 Tail-wheeled Aircraft

Chapter 13 of the FAA *'Airplane Flying Handbook'* (FAA-H-8083-3B) provides advice to pilots regarding the handling of tail-wheeled aircraft and notes that;

'Because of the relative placement of the main gear and the CG [Centre of Gravity], tailwheel aircraft are inherently unstable on the ground.'

And that;

'Tailwheel airplanes have an exaggerated tendency to weathervane, or turn into the wind, when operated on the ground in crosswinds.'

2. AAIU COMMENT

In this occurrence the aircraft landed normally and began to track to the left across the runway during the roll-out phase. There were crosswinds from the left at the time of the landing and these crosswinds would have caused the aircraft to swing into wind, towards the left of the runway. Once the aircraft had departed the runway, the left wheel sank and dug into the ground which was soft due to recent weather conditions. The aircraft's forward momentum caused the tail of the aircraft to lift. The propeller then struck the ground as the aircraft inverted.

Tailwheel aircraft, due to their geometry, are prone to directional instability on the ground. Landing in crosswinds can produce dynamic conditions making it difficult to maintain directional control on the ground, even for pilots experienced in tailwheel operations. This can be particularly challenging when operating on narrow runways. The risk of the aircraft sustaining damage is increased if the aircraft departs the runway.

- 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

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