



# **Air Accident Investigation Unit Ireland**

**INTERIM STATEMENT**

**ACCIDENT  
BRM Aero, Bristell NG5, G-OJCS  
Near Belan, Co. Kildare**

**13 June 2019**



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

## Foreword

This Safety Investigation is exclusively of a technical nature and this Interim Statement details the progress of the Investigation.

In accordance with the provisions of Annex 13<sup>1</sup> to the Convention on International Civil Aviation, Regulation (EU) No 996/2010<sup>2</sup> and Statutory Instrument (SI) No. 460 of 2009<sup>3</sup>, 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 a safety investigation is the prevention of accidents and incidents.

Accordingly, AAIU Reports or Statements should not 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 Interim Statement 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.

This Interim Statement is based on information currently known to the Investigation and may contain errors. Any errors in this Interim Statement will be corrected in the Final Report.

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

<sup>2</sup> **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.

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



## INTERIM STATEMENT

Report No: 2020-008

State File No: IRL00919027

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**Accident to BRM Aero, Bristell NG5, G-OJCS, near Belan, Co. Kildare, Ireland, on 13 June 2019.**

## 1 INTRODUCTION

G-OJCS, a Bristell NG5 aircraft, had been purchased by a syndicate comprising three pilots. It was delivered to Ireland on 24 March 2019 by the UK-based agent for the Czech-based supplier of the aircraft kit<sup>4</sup>. The syndicate had decided that in order to best familiarise themselves with their new aircraft they would arrange for an acquaintance, who was a pilot with 2,735 hours flying experience on many light aircraft types, and held an instructor's rating, to fly with each of them in the aircraft, over the months following the purchase.

There were two occupants on board the aircraft on the accident flight: the Pilot, who was one of the syndicate members, was seated in the left-hand seat, and the person they had requested to help them become familiar with the aircraft, was seated in the right-hand seat; he had previously accompanied one of the other syndicate members on board the aircraft on a flight earlier that day.

The Investigation asked the syndicate members what was the likely nature of the flight during which the accident occurred. The Investigation was informed that they believed the intention was to practice steep turns and stalls. The Investigation also asked the syndicate members if intentional spinning of the aircraft might have been attempted on the accident flight. The syndicate members were adamant that this would not have been the case as aerobatics and spinning were prohibited on this aircraft type.

For the accident flight, the aircraft took off from Runway (RWY) 29 at Kilrush Airfield (EIKH), Co. Kildare, at approximately 18.02 hrs UTC<sup>5</sup>, and was to land back at EIKH upon completion of the flight. The aircraft occupants' families became concerned when the aircraft had not returned, and contact with An Garda Síochána was made that evening. The aircraft wreckage was located by the Dublin-based Search and Rescue helicopter (R116) at 03.29 hrs. The aircraft had impacted in a grass field, located approximately 5.2 nautical miles (NM) to the south of EIKH. The aircraft was destroyed. The two occupants were fatally injured. There was no fire.

<sup>4</sup> Note: The aircraft had been built in the UK by a previous owner, prior to sale to the syndicate.

<sup>5</sup> UTC: Co-ordinated Universal Time. All timings in this Report are UTC; Local time was UTC + 1 hour.

# INTERIM STATEMENT

Two Inspectors of Air Accidents deployed to the accident site and an Investigation was commenced. A Preliminary Report (AAIU [Report No: 2019-008](#)) was issued on 18 July 2019, which set out factual information known at that time. A Final Report was not issued before the first anniversary of the accident, and therefore in accordance with Annex 13 to the Convention on International Civil Aviation (ICAO), Regulation (EU) No 996/2010 and the provisions of SI No. 460 of 2009, this Interim Statement is being issued, which is primarily factual in nature.

## 2 PROGRESS REPORT

### 2.1 General

The purpose of this Interim Statement is to detail the progress of the Investigation. For completeness it should be read in conjunction with the Preliminary Report.

In accordance with ICAO Annex 13, a number of agencies, both national and international are providing assistance to the Investigation, including: the Irish Aviation Authority (IAA); the Air Accidents Investigation Branch (AAIB) of the United Kingdom (UK); the UK Civil Aviation Authority (CAA); the National Transportation Safety Board (NTSB) of the United States (US); The UK Light Aircraft Association (LAA); and the Aircraft (kit) Manufacturer (Czech Republic).

### 2.2 Personnel Information

#### 2.2.1 Pilot Details

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The Pilot was aged 58 years. Records indicate that he had been issued with a non-expiring Private Pilot Licence (Aeroplane), PPL(A), by the IAA in July 2014. The licence included a rating for Single Engine Piston (land) aircraft. The Pilot also underwent the required pilot medical examinations with an Irish Aeromedical Examiner (AME), the most recent of which had been carried out on 2 May 2019. Following the medical examination, the Pilot was issued with an EASA Class 2 medical certificate, which was valid for one year.

#### 2.2.2 Pilot's Flying Experience

The Investigation was provided with copies of the Pilot's personal flying logbooks. The Pilot's flying experience is shown in **Table No. 1**.

<b>Total all types:</b>	287:32 hours
<b>Total on type:</b>	3:30 hours
<b>Total on type P1:</b>	3:30 hours
<b>Last 90 days:</b>	3:30 hours
<b>Last 28 days:</b>	0:25 minutes
<b>Last 24 hours:</b>	Accident flight 0:20 minutes

**Table No. 1:** Pilot's Flying Experience



### 2.2.3 Second Occupant Details

The second occupant, who was also a qualified pilot, was a male, aged 70 years. He had been issued with a PPL(A) in 1978 and, at the time of the accident, held a Commercial Pilot Licence (Aeroplane), CPL(A), which was issued by the IAA on 19 May 2015. The CPL(A) contained the following ratings: SEP (Single-Engine Piston) (land), Flight Instructor (Aeroplane) – SEP (land), both valid until 2021. Records indicate that on 26 February 2019, he underwent a medical examination administered by an Irish (AME). The Medical Certificate that was issued covered both Class 1 (required for CPL), and Class 2 (required for the PPL). It was issued on 21 May 2019, with the Class 1 certificate valid until 26 August 2019, and the Class 2 Certificate valid until 26 February 2020.

The Investigation was provided with copies of the second occupant's personal flying logbooks, and his flying experience is shown in **Table No. 2**.

<b>Total all types:</b>	2,735 hours
<b>Total on type:</b>	23:30 hours
<b>Last 90 days:</b>	43:00 hours
<b>Last 28 days:</b>	15:00 hours
<b>Last 24 hours:</b>	1:20 hours

**Table No. 2:** Second Occupant's Flying Experience

## 2.3 Wreckage Examination

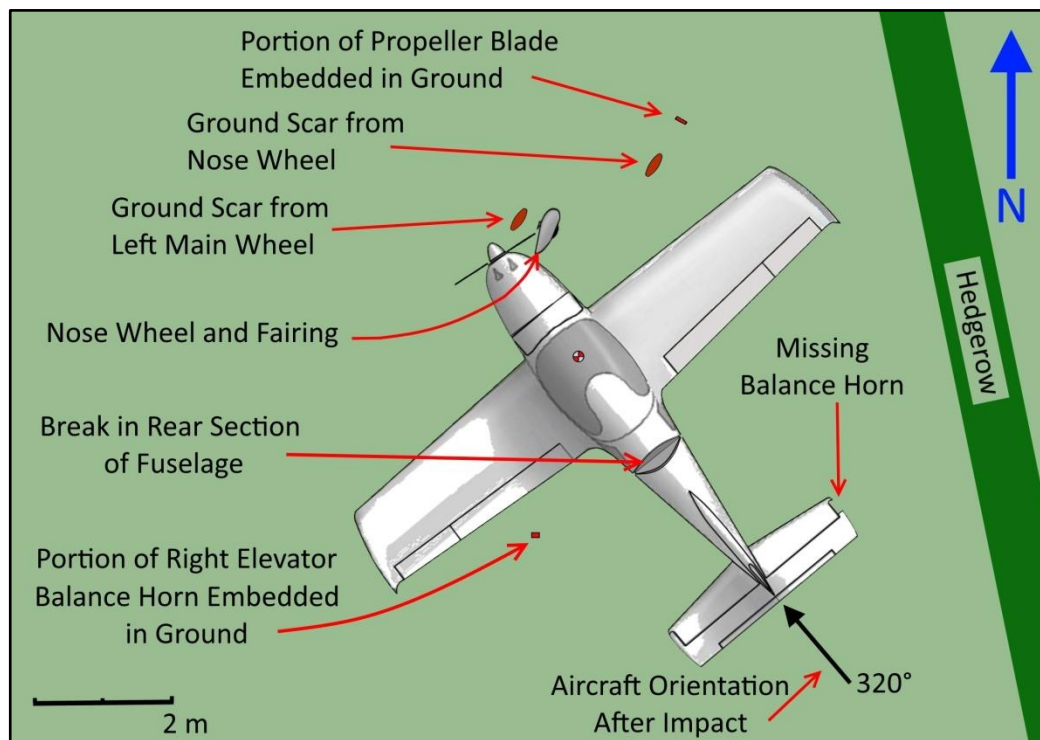
Upon arrival at the accident site, the Investigation noted the compact nature of the accident site, with the aircraft and all ground marks located within a circle of 4.7 metres (m) radius centred on the aircraft cockpit. The aircraft had come to rest 2 m west of a boundary hedge, and 29 m east of electricity power cables. There was no evidence that the aircraft had made contact with either the hedge or electricity cables prior to impact. A portion of the right elevator balance horn was found embedded in soil 0.5 m behind the left-hand wing. There was a smell of fuel at the accident site, and the Investigation noted the presence of fuel in the fuel tanks.

Two of the three propeller blades and the propeller spinner were found intact, and attached to the engine. A section of the third propeller blade, 240 millimetres in length, was found completely embedded in soil, 1.2 m in front of the right-hand wing. Witness marks on the spinner and front face of the engine cowling indicate that neither the engine nor the propeller was rotating at the time of impact. The Investigation notes that during a prolonged spin an aircraft engine may cut out.

Examination of the aircraft at the accident site showed that all aircraft components were present. All flight control surfaces and their associated linkages were located on the aircraft, and control continuity was confirmed during examination. Engine control continuity was also confirmed. Initial examination of the wreckage at the accident site, and subsequently at the AAIU wreckage facility, at Gormanston, Co. Meath, indicates that the aircraft impacted the ground whilst rotating in a left-hand flat spin<sup>6</sup>.

<sup>6</sup> **Flat Spin:** A spinning, descending motion of an aircraft where the axis of rotation is close to the aircraft's yaw axis and centre of gravity, with aircraft pitch and wing attitude close to horizontal.

The initial impact was on a heading of 033° magnetic. The aircraft then bounced, continued the left rotation through 73°, and came to rest on a heading of 320° magnetic, approximately 2 m south of the initial impact point (**Figure No. 1**). The aircraft exhibited significant distortion due to large deceleration forces.



**Figure No. 1: Final resting position of Aircraft**

Examination of the aircraft wreckage is continuing at the AAIU wreckage facility. This examination is to enable the Investigation to develop the best possible understanding of the dynamics of the aircraft at impact.

## 2.4 Recorded Data

The aircraft was fitted with an avionics system, which included a flat screen capable of displaying data from primary flight, navigation and aircraft systems. As the unit was capable of storing data used for the various displays, it was removed from the aircraft and taken by the Investigation to the UK agent for the equipment. A successful download of the stored data was carried out, which included a large number of recorded parameters.

The aircraft was also fitted with a tablet device which was capable of displaying navigation information. The tablet device was removed from the aircraft and the data was downloaded by the AAIU.

Data from recorded ATC radar was also examined, and was found to be consistent with data obtained from the navigation units installed on the aircraft up until a point close to where the accident occurred.





Data from all three sources shows that the aircraft had been flying on a westerly track at an approximate altitude of 3,000 ft. The data from the avionics system and the tablet device indicates that the aircraft appears to have been conducting a straight and level un-accelerated stall exercise<sup>7</sup>, and that a stall occurred at recorded time 18:21:10. The data from the avionics system shows that the aircraft impacted the ground at recorded time 18:21:42, approximately 145 m south of where the stall occurred.

The Investigation obtained a large amount of recorded data from the avionics system, analysis of which is ongoing. The Investigation has requested the assistance of both the UK AAIB, and the US NTSB, in analysing the data.

## 2.5 Additional Information

Annex I of Regulation (EU) 2018/1139 (also known as the '*Basic Regulation*', which superseded Regulation (EC) 216/2008) on the common rules in the field of civil aviation, the purpose of which is to '*establish and maintain a high uniform level of civil aviation safety in the Union*', lists the categories of aircraft that are exempt from the Regulation. These categories include homebuilt/self-build aircraft.

The aircraft was constructed in the UK under the UK LAA 51% Self-Build program. As such, the aircraft falls under the Regulation (EU) 2018/1139 '*Annex I*' aircraft category.

In terms of aircraft design and certification, EASA informed the Investigation that, '*a Czech Republic manufacturer would need an EASA certification if [the aircraft was] not related to Annex I "exceptions". As the [Aircraft Manufacturer's aircraft] is Annex I [one needs] to rely [on Czech] National Aviation Authority for certification issues*'. 6

## 3 ONGOING ACTIVITIES

The Investigation continues to examine a number of areas including, but not limited to:

- The proximate and contributory factors of the accident.
- Further examination of the aircraft wreckage.
- Further examination of the recorded data.
- An examination of the current regulations and how they relate to the subject aircraft, including type approval/certification.
- An examination of previous accidents involving similar aircraft types.

The Investigation is ongoing and the AAIU will publish a Final Report in due course.

- END -

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<sup>7</sup> During a straight and level un-accelerated stall exercise the aircraft maintains a constant altitude, with its wings level, at a reduced engine power. To maintain altitude the aircraft pitch must be gradually increased, until the angle of attack of the wing reaches the stall angle.

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](http://www.aaiu.ie)



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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  
Fax: +353 1 604 1514  
Email: [info@aaiu.ie](mailto:info@aaiu.ie)  
Web: [www.aaiu.ie](http://www.aaiu.ie)