



Air Accident Investigation Unit Ireland

FACTUAL REPORT

ACCIDENT
ICP Ventura, EI-GHS
Tubrude Airfield, Co. Meath

20 July 2019



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 and contributory 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 2019, appointed Clive Byrne as the Investigator-in-Charge, to carry out an Investigation into this accident and prepare a Report.

Aircraft Type and Registration: ICP Ventura, EI-GHS

No. and Type of Engines: 1 x Rotax 912 ULS

Aircraft Serial Number: 18-07-62-0009R

Year of Manufacture: 2018

Date and Time (UTC)⁴: 20 July 2019 @ 15.00 hrs

Location: Tubrude Airfield, Co. Meath

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: 51 years

Commander's Flying Experience: 166 hours, of which 24 were on type

Notification Source: Pilot

Information Source: AAIU Report Form submitted by the Pilot, AAIU Field Investigation

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

FINAL REPORT**SYNOPSIS**

The aircraft, an ICP Ventura, was approaching the easterly runway at Tubrude Airfield, Co. Meath. As it was flared for landing, the left wing dropped, and struck the ground. The nose landing gear subsequently impacted with the ground and detached from the aircraft. The aircraft slid along the runway on its nose cowling for approximately 20 metres, resulting in substantial damage to the propeller blades. There were no injuries to either of the two occupants on board. There was no fire.

NOTIFICATION

The AAIU was notified of this accident by the Pilot.

1. FACTUAL INFORMATION**1.1 History of the Flight**

The aircraft was on a VFR⁵ flight and was returning from Kilkeel Airfield in Co. Down to its home base at Tubrude Airfield in Co. Meath. The Pilot stated that on approach to Tubrude Airfield from the north, the windsock on the southern side of the runway was favourable for a landing on the easterly runway, designated runway (RWY) 09. The Pilot commenced a left-hand circuit and elected to land uphill on the easterly orientated runway. The Pilot stated that just before the aircraft was flared for landing, and '*possibly due to sudden wind shear*', the left wing dropped and struck the ground. The nose landing gear then impacted the ground and detached from the aircraft. The aircraft slid approximately 20 metres (m) on the nose cowling, resulting in substantial damage to the propeller.

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The Pilot notified the AAIU and recovered the aircraft to a hangar at the airfield. Two Inspectors of Air Accidents subsequently inspected the aircraft and the accident site. The Pilot furnished an AAIU Report Form to the Investigation together with the requested documentation.

1.2 Injuries to persons

No injuries to the Pilot or the passenger as a result of the accident were reported.

1.3 Airfield Information

Tubrude Airfield is a private, unlicensed airfield situated 1.5 km south of Oldcastle, Co. Meath at an elevation of 360 feet (ft) AMSL⁶. It has a grass runway designated RWY 09 towards the east and RWY 27 to the west. The runway is 470 m in length, 18 m in width and has a ditch and some large trees running adjacent to its southern side. RWY 09 has a noticeable upward gradient with a significant and prominent hillock towards the first third of the runway length. The runway surface at the time of the accident was firm and the grass was short. The runway was edged with white markers and a windsock was situated towards its mid-point on the southerly side.

⁵ **VFR:** Visual Flight Rules.

⁶ **AMSL:** Above Mean Sea Level.



The runway was prepared across two adjacent fields that were once separated by a ditch. The significant and prominent hillock within the runway is indicated by the yellow dashed lines in **Photo No. 1**. This hillock is coincident with where the runway crosses the previous ditch boundary.



Photo No. 1: Touchdown area on RWY 09 (facing east). Yellow lines added

1.4 Aircraft Information

The ICP Ventura is an all-metal, high-wing aircraft with a fixed tricycle landing gear configuration. The subject aircraft was fitted with a Rotax 912 ULS engine, driving a clockwise (as viewed from the cockpit) rotating three-bladed composite propeller. The aircraft was '*kit-built*' at the manufacturer's facility at Castelnuovo Don Bosco, Italy.

1.5 Damage to Aircraft

After the accident, the aircraft was recovered by the Pilot to the hangar at the airfield and placed on a temporary support. As a result of the accident, significant damage was evident on the left wing, which showed compression at its mid-span with associated buckling of the wing skins (**Photo No. 2** and **Photo No. 3**). The right wing tip also showed minor contact damage.



Photo No. 2: Left wing upper surface



Photo No. 3: Evidence of buckling (left wing)

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During the impact sequence, the nose landing gear detached from the aircraft, resulting in damage to the nose landing gear assembly and the surrounding engine and fuselage cowlings. All three propeller blades impacted the runway and were destroyed (**Photo No. 4**). The main landing gear fairings and associated fittings also exhibited impact damage (**Photo No. 5**).



Photo No. 4: Damage to propellers



Photo No. 5: Right main landing gear

1.6 Other Damage

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Minor impact marks to the runway surface were evident as shown in **Photo No. 6**.



Photo No. 6: Impact marks on RWY 09 (facing west)

The impact marks observed in **Photo No. 6** indicate that at 73.5 m from the threshold (Point 1 circled in yellow) the left wing impacted the ground first. The next witness mark noted on the runway (Point 2) at 78.5 m from the threshold corresponds to a heavy nose impact, which is likely when the nose landing gear detached. This was followed approximately 3.5 m later by a series of propeller marks in the ground. At a distance of 85 m from the threshold, a ground impression, corresponding to the right main wheel (Point 3) commenced and continued for a distance of 34 m. The nose wheel assembly was reported to have been recovered to the right of this track marking.



1.7 Meteorological Information

Met Éireann, the Irish Meteorological service, provided the Investigation with the following aftercast for the Tubrider Airfield area, Co. Meath, for 15.00 hrs on 20 July 2019:

Meteorological Situation: A low pressure system of 999 hectoPascals (hPa) south of Iceland feeds a stable moderate westerly airflow over Ireland.

Wind: (At surface) Varying between SW and NW, 5 kts.
(At 2,000 ft) Westerly, 15 kts.
(Surface to 3,000 ft) Varying between SW and NW, 5 knots (kts) - the airmass was stable, so little variation from the surface conditions expected.

Visibility: 30+ km.

Weather: Cloudy and dry.

Cloud: Few (1-2/8 oktas) cumulus cloud with bases between 2,500 and 3,000 ft. Broken (5-7/8 oktas) layered stratocumulus with bases between 4,000 and 5,000 ft.

Surface Temp/Dew Pt: 17 °C, 11 °C.

MSL Pressure: 1009 hPa.

Freezing level: >10,000 ft.

1.8 Pilot Information

The Pilot held a Part-FCL PPL (A) which was first issued by the IAA on 15 June 2016 with a SEP⁷ (land) rating valid until 31 May 2020. The Pilot held a Class 2 Medical Certificate, issued on 14 May 2019, which was valid until 4 June 2020. The Pilot had recorded a total of 166 flying hours, of which 24 hours were on the accident type.

2. AAIU COMMENT

As the Pilot flared the high-wing aircraft for landing onto RWY 09 at a private airfield, the aircraft's left wing dropped and struck the ground. The nose wheel impacted with a significant and prominent hillock within the runway, causing the nose landing gear assembly to be sheared from the aircraft. Thereafter, the aircraft slid on its nose cowling which resulted in substantial damage to the propeller. The weather report for the time of the accident indicates that the wind at the surface was 'Varying between SW and NW, 5 kts' and supports the Pilot's opinion, from his AAIU Report Form, that the cause of the wing drop was 'possibly due to sudden wind shear'.

The effects of windshear during flaring for a landing can be challenging for a pilot. In this accident, the challenge for the Pilot in correcting for the effects of possible windshear was likely exacerbated by the overall gradient of the runway and the significant and prominent hillock with which the dropping left wing impacted.

SAFETY RECOMMENDATIONS

This Investigation does not sustain any Safety Recommendations.

- END -

⁷ SEP: Single Engine Piston.

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



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