



Air Accident Investigation Unit Ireland

FACTUAL REPORT

**ACCIDENT
IKARUS C42 FB, G-CEFA
Near Garristown, Co. Meath
20 April 2013**



**An Roinn Iompair
Turasóireachta agus Spóirt**

Department of Transport,
Tourism and Sport

FINAL REPORT

AAIU Report No: 2013-012
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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 S.I. 460 of 2009, the Chief Inspector of Air Accidents, Mr. Jurgen Whyte, on 20 April 2013, appointed himself as the Investigator-in-Charge to carry out an Investigation into this Accident and prepare a Report. The sole purpose of this Investigation is the prevention of aviation Accidents and Incidents. It is not the purpose of the Investigation to apportion blame or liability.

Aircraft Type and Registration:	IKARUS C42 FB (Microlight) ¹ , G-CEFA
No. and Type of Engines:	1 x ROTAX 912-UL
Aircraft Serial Number:	PFA 322-14570
Year of Manufacture:	2007
Date and Time (UTC):	20 April 2013 @ 16.23 hrs
Location:	Approximately 5 NM north of Garristown, Co. Meath, Ireland
Type of Operation:	General Aviation – Private
Persons on Board:	Crew 1 Passengers 1
Injuries:	Crew Nil Passengers Nil
Nature of Damage:	Significant, to port side main undercarriage assembly ESB power lines severed
Commander's Licence:	NPPL ² (Microlight) issued by the UK Civil Aviation Authority (CAA)
Commander's Details:	Male, aged 33 years
Commander's Flying Experience:	70 hours, of which 38 were on type
Notification Source:	Member of the Public
Information Source:	AAIU Pilot Report Form

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¹ **Microlight:** For ease of reading, a microlight will be referred to henceforth in this Report as an aircraft

² **NPPL:** National Private Pilot Licence



SYNOPSIS

While conducting an approach into a private agricultural grass field, the aircraft made contact with and severed two 20 kV ESB³ power lines. The Pilot performed a go-around and returned to a local private airstrip where, during the landing rollout, the port side main undercarriage assembly collapsed. There were no injuries.

1. FACTUAL INFORMATION

1.1 History of Flight

The intended landing site was a privately owned agricultural grass field located approximately 5 NM north of Garristown in the town land of 'Pluckhimin', just inside the Co. Meath boundary. The Pilot knew the field owner and had his permission to use it. Prior to the actual flight, the Pilot carried out a visual survey of the field from the ground and identified one set of wires crossing at the northern end of the field.

On the day of the accident, the Pilot took-off from his home field at Tourmakeady, Co Mayo (14.40 hrs) with one passenger (his father) on-board and routed VFR abeam Ireland West Airport (EIKN) direct to the Garristown area. The Pilot did not file a flight plan or communicate with an ATC facility, nor was he required to do so as he was operating in Class G airspace. The prevailing weather conditions were good, with visibility 10 km+, cloud at 5,000 ft and a wind of 180 degrees at 15 kts.

On arrival overhead the intended landing field, the Pilot said that he commenced a circuit but found that it was "difficult to maintain contact with the field due to a lack of visual reference points". He eventually positioned for a long final approach and adopted a "constant aspect approach". On passing over the "first set of wires" he decided to continue with the approach. His father identified a second set of wires at a distance of approximately 30 ft ahead crossing their approach path. The Pilot immediately pulled up sharply and performed a go-around. They then routed to Barstown, a small airstrip approximately 4 NM north of Maynooth and during the landing rollout, the port side main undercarriage assembly collapsed. Both occupants exited the aircraft uninjured, following which they man-handled the damaged aircraft to a secure area of the airstrip. The Pilot then removed the damaged parts of the main undercarriage assembly with the intention of having them repaired and re-fitted to the aircraft in order to fly it out of the airstrip.

A member of the public rang the AAIU 24 hour emergency line and advised the Investigator-on-Call (IOC) that he had seen a white light aircraft strike ESB power lines and was concerned for the safety of the person(s) on board.

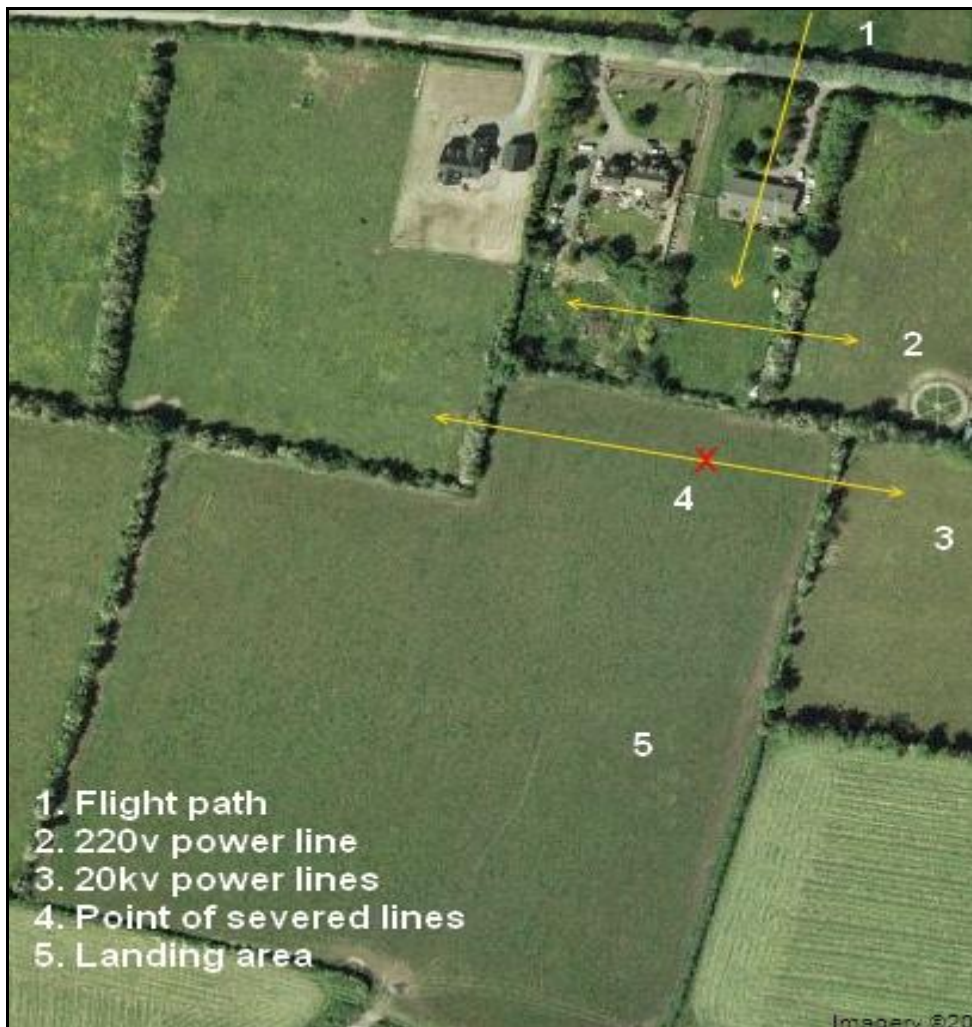
On arrival at the accident site, the house owner pointed out two separate sets of power lines to the IOC. The first set was a 220 V line running across his back garden at right angles to the approach path. The second set was located in an adjacent field at the end of his garden, parallel to the first set and at right angles to the approach path (Graphic No. 1).

³ ESB: Electricity Supply Board

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Both lines of the second set were severed at the mid-point of the span of approximately 50 meters. The associated poles on either side of the span were embedded within the field boundary hedgerow.

The house owner told the IOC that he heard an aircraft fly very low over his house. In his opinion the aircraft first struck the power line in his garden, which *“bounced up and down for a significant period of time after the aircraft had left”*. The aircraft continued into the adjacent field and struck/severed a set of power lines; there was no flash or bang. The aircraft flew away, but as he was concerned for the safety of the pilot he decided to call in what he had seen.



Graphic No. 1: Depiction of occurrence area

Following an extensive search through various means, including Dublin Air Traffic Control (ATC) and the Irish Aviation Authority (IAA), the aircraft was identified some days later as G-CEFA. The Pilot, on being contacted by the IAA, subsequently made contact with the AAIU advising that he had been involved in an occurrence.



1.2 Damage

The aircraft was examined by an AAIU Engineering Inspector at Barstown airstrip some days after the occurrence. Apart from the removed port side main undercarriage assembly, there was no damage to the aircraft and no visible evidence was found that the aircraft had come in contact with power lines (**Photo No. 1**).

On examination of the removed port side main undercarriage assembly, evidence of power line contact was found on the forward supporting strut. It is considered by the Investigation that this strut was structurally weakened following contact with the power lines and subsequently failed in overload on landing at Barstown.



Photo No. 1: G-CEFA with port side main undercarriage assembly removed

1.3 Other Damage

ESB Networks confirmed that the two severed parallel power lines were a single phase line carrying a voltage of 20 kV. The conductor (line) was 25 mm SCA⁴. The outage duration was 5.5 hours and a total of 11 local houses were affected by the outage. A total of 100 meters of conductor (line) was replaced.

1.4 The Pilot

The Pilot described to the Investigation that during the final stages of the approach he identified the first set of power lines as the set he saw on his ground survey of the landing area. When his father shouted for the second set he got *“a terrible fright”* and just pulled back on the control column to avoid them. He did not think that he had hit the power lines but *“wanted to get onto the ground as fast as possible”*. In doing so he rushed the landing at Barstown, landed a little faster than usual, following which the port side main undercarriage assembly collapsed. He did not initially associate the undercarriage collapse with the power lines but rather thought that it was due to his rushed landing. During the subsequent examination of the removed parts of the undercarriage assembly, the Pilot accepted that the aircraft had come in contact with the power lines and that this was the initiating event in the failure of the supporting strut.

⁴ SCA: Steel Core Aluminium

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1.5 Permit to Fly

The aircraft had a Permit to Fly (PtoF) issued by the UK CAA, which was valid until 22 January 2014. Aeronautical Notice A19 issued by the IAA (10 April 2012) provides for visiting aircraft not holding ICAO compliant Certificates of Airworthiness (CofA). In general terms an exemption (28 days per visit) is available for amateur-built aircraft, which are registered in an ECAC⁵ Member State, to enter or overfly Irish airspace without the need to apply for an individual exemption, subject to the 'Conditions of Exemption' of A19. This is to facilitate short-term visits, but not to accommodate aircraft that are intended to be based or resident in Ireland. Such aircraft are required to transfer onto the Irish register. The IAA advised the Investigation that the Pilot was operating the aircraft within Ireland and had not made any application to have the PtoF validated to accommodate the longer stay, nor had he applied to transfer the aircraft onto the Irish register.

1.6 Licencing

The Pilot held a valid UK NPPL (Microlight). However, as the Pilot was resident in Ireland with a residential address in Ireland, he was not entitled to any automatic validation of that licence. As such the Pilot was required to either apply to the IAA for validation of that licence or transfer to an Irish issued PPL (Microlight). The IAA advised the Investigation that no validation or transfer of licence was sought by the Pilot.

5 1.7 Reporting of an Occurrence

Regulation 9 (1) of S.I. No. 460 of 2009 requires pilot's involved in an aviation occurrence to report it immediately to the AAIU. In addition, there are regulatory reporting requirements to the State of Registry and the State of Occurrence. In any event, the Pilot did not initially report the occurrence to the AAIU and furthermore, the aircraft was moved from its final resting position and parts were removed without permission being sought from the AAIU.

2. AAIU COMMENT

The consequences of aircraft coming in contact with power lines and suffering wire strikes have been regularly reported on by the AAIU in the past. Both individuals involved in this particular occurrence were extremely fortunate that the outcome was not more serious and this event once again serves to demonstrate that power lines are an ever present hazard to the aviation community. The new generation of high performance, short take-off and landing (STOL) aircraft, such as G-CEFA, allow pilots to land almost anywhere, even outside of normal prepared landing strips. As such their exposure to the risk of a wire strike is greatly increased. This risk can be somewhat mitigated against by, amongst other things, being particularly selective regarding locations being operated into and out off and by carrying out a detailed aerial reconnaissance with a number of orbits in different directions prior to conducting an approach to the intended landing area.

- END -

⁵ ECAC: European Civil Aviation Conference

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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