



# **Air Accident Investigation Unit Ireland**

**FACTUAL REPORT**

**ACCIDENT**

**TL 3000 Sirius, EI-FSA  
Cregboy, Co. Galway**

**16 August 2016**



**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 13<sup>1</sup> to the Convention on International Civil Aviation, Regulation (EU) No 996/2010<sup>2</sup> and Statutory Instrument 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 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.

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<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.



AAIU Report No: 2016 - 019  
 State File No: IRL00916056  
 Report Format: Factual Report  
 Published: 29 December 2016

In accordance with Annex 13 to the Convention on International Civil Aviation, Regulation (EU) No 996/2010 and the provisions of SI 460 of 2009, the Chief Inspector of Air Accidents on 16 August 2016, appointed Mr Howard Hughes as the Investigator-in-Charge, to carry out an Investigation into this Accident and prepare a Report.

<b>Aircraft Type and Registration:</b>	TL 3000 Sirius, EI-FSA	
<b>No. and Type of Engines:</b>	1 x Rotax 912 iS	
<b>Aircraft Serial Number:</b>	16 SI 140	
<b>Year of Manufacture:</b>	2016	
<b>Date and Time (UTC)<sup>4</sup>:</b>	16 August 2016 @ 15.58 hrs	
<b>Location:</b>	Cregboy, Co. Galway	
<b>Type of Operation:</b>	General Aviation	
<b>Persons on Board:</b>	Pilot - 1	Passengers - 1
<b>Injuries:</b>	Pilot - 0	Passengers - 0
<b>Nature of Damage:</b>	Substantial	
<b>Commander's Licence:</b>	LAPL (A) <sup>5</sup>	
<b>Commander's Details:</b>	Male, aged 61 years	
<b>Commander's Flying Experience:</b>	619 hours, of which 19 were on type	
<b>Notification Source:</b>	Pilot	
<b>Information Source:</b>	AAIU Report Form submitted by the Pilot	

<sup>4</sup> **UTC:** Co-ordinated Universal Time. All timings in this report are quoted in UTC; to obtain the local time add one hour.

<sup>5</sup> **LAPL (A):** Light Aircraft Pilot Licence (Aeroplanes).

## SYNOPSIS

The light aircraft, with the Pilot and one passenger on board, was returning to Cregboy from Letterkenny airfield (EILT). During the landing, the Pilot reported that the aircraft's rate of descent increased unexpectedly, resulting in a hard landing and bounce. The aircraft subsequently touched down again on its nose wheel. The nose gear assembly fractured and the nose and propeller of the aircraft contacted the ground. There was extensive damage to the aircraft. There were no injuries.

## 1. FACTUAL INFORMATION

### 1.1 History of the Flight

The aircraft, with the Pilot and one passenger on board, was returning from Letterkenny airfield (EILT) to a private airstrip at Cregboy, Co. Galway. The Pilot had elected to land on runway (RWY) 22. The Pilot estimated that there was a crosswind of approximately 14 kts from the left. The Pilot stated that as he began to flare<sup>6</sup> the aircraft for landing, it '*suddenly dropped*'. This resulted in a hard landing on the aircraft's main landing gear and the aircraft bounced back into the air. The second touchdown on the runway was on the aircraft's nose wheel. The nose wheel assembly fractured and separated from the nose gear tube which dug into the grass runway. During the deceleration, the aircraft propeller, nose and right wingtip contacted the ground. The aircraft came to rest approximately 136 m beyond the threshold, having suffered substantial damage (**Photo No. 1**). The Pilot and passenger exited the aircraft. Neither the Pilot nor the passenger reported any injuries.

### 3 1.2 Aircraft Information

The TL-3000 Sirius is a three-axis, high wing, monoplane, with a tricycle landing gear and a steerable nose wheel. The primary aircraft structure is manufactured from carbon fibre and ultraviolet-resistant fiberglass-reinforced laminate. There are two side-by-side seats with dual flight controls.

The Pilot informed the Investigation that this was a new aircraft which he had acquired earlier in the year and that there were no handling or performance issues with it prior to the event.

A copy of the Pilot's Operating Handbook for the aircraft was supplied to the Investigation by the Pilot. The Investigation noted that there was no reference in the manual to crosswind limitations. The aircraft Manufacturer informed the Investigation that '*The maximum cross wind values for the TL 3000 Sirius are not stated in the Manual. Testing of this particular aircraft version ... did not prove any limit*'.

### 1.3 Airfield Information

The private airstrip at Cregboy, Co. Galway, was located approximately 3.3 km NNW<sup>7</sup> of Galway Airport (EICM). It consisted of a grass landing strip, approximately 260 m in length.

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<sup>6</sup> For fixed wing aircraft, the flare is a manoeuvre that precedes the touchdown during landing. During the flare, the nose of the aircraft is raised, reducing the descent rate, and setting the correct attitude for touchdown.

<sup>7</sup> NNW: North North West.



There was a low hedge close to the RWY 22 threshold and an area of low trees and bushes approximately 70 m to the south of the threshold of RWY 22. The airstrip was equipped with a windsock.

#### 1.4 Interview and Statement from the Pilot

The Pilot was interviewed by the Investigation and he also submitted an AAIU Report Form. The Pilot had a total flying experience of the 619 hours, of which approximately 40 hours were on Cessna 152 and 172, with 560 hours on Ikarus C42. He had 19 hours on the accident aircraft.

The Pilot informed the Investigation that the descent and approach into Cregboy were normal, but that he noted some turbulence during the final stages of the approach. The Pilot stated that the weather conditions at the field were generally good, with a crosswind from a south-easterly direction of approximately 14 kts. The Pilot had judged the crosswind from a windsock on the airfield.

The Pilot also provided the Investigation with data obtained from the on-board Garmin G3X avionics system. This data supported the Pilot's narrative of events leading up to the accident.

#### 1.5 Damage to the Aircraft

The Pilot supplied details of the damage to the aircraft, including a number of photographs, one of which is reproduced below as **Photo No. 1**. The reported damage included, but was not limited to, complete separation of the nose gear, resulting from a fracture of the nose gear tube; severe damage to the propeller and damage to the lower engine cowling as the aircraft nose section contacted the ground; damage to the right wing tip and outer section of the right wing leading edge; damage to the right wing root; damage to the fuselage at the right wing root mounting points; and a crack sustained on left portion of the main windscreen.



**Photo No. 1:** EI-FSA in its final resting position (Courtesy of Owner)

## 2. AAIU COMMENT

Whilst light aircraft such as the TL 3000 Sirius possess good lift and aerodynamic characteristics, they are low in mass. Consequently, they are more susceptible to sudden changes in wind direction and velocity. Just south of the runway threshold there was an area of bushes and trees. The Pilot noted that there was a crosswind of 14 kts. The crosswind would have been blowing over this area of bushes and trees, and may have generated an area of turbulent air, including possible downdrafts, at the point over the runway where the Pilot began to flare the aircraft for landing. It is possible that this could have caused the 'sudden drop' experienced by the Pilot as he attempted to land the aircraft.

The Investigation also notes that the Pilot's Operating Handbook contains no guidance to pilots on crosswind limits for this aircraft.

- 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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