



Transportation  
Safety Board  
of Canada

Bureau de la sécurité  
des transports  
du Canada



# AIR TRANSPORTATION SAFETY INVESTIGATION REPORT A24A0046

## COLLISION WITH TERRAIN

Privately registered  
Earthstar Aircraft eGull (basic ultralight), C-IRAY  
Weyman Airpark (CCG3), New Brunswick, 1.25 NM SE  
19 July 2024

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability. **This report is not created for use in the context of legal, disciplinary or other proceedings.** See the Terms of use at the end of the report.

### History of the flight

At 1042<sup>1</sup> on 19 July 2024, the privately registered Earthstar Aircraft eGull basic ultralight aircraft (registration C-IRAY, serial number EG1801) departed Weyman Airpark (CCG3), New Brunswick, for a local visual flight rules (VFR) flight. The pilot, who was also the owner of the aircraft, was the sole occupant on board the 1-seater aircraft.

The aircraft proceeded to fly south, around the community of Keswick, about 3 nautical miles (NM) southeast of CCG3. It then headed north to an area approximately 1.5 NM from CCG3. At 1127, after 45 minutes of flying, the aircraft was observed circling at a height of less than 1000 feet above ground, then nosing down and colliding with terrain in a cornfield 1.25 NM southeast of CCG3. The pilot was fatally injured. There was no post-impact fire. The aircraft was destroyed by impact forces.

<sup>1</sup> All times are Atlantic Daylight Time (Coordinated Universal Time minus 3 hours).

Local residents notified emergency services of the accident.

### **Pilot information**

The pilot held a recreational pilot permit, which he had obtained in 2021, and a Category 4 medical certificate that was valid until 01 December 2025. He had obtained a glider licence in 1975 and a private pilot licence in 1990; however, the investigation could not determine when the pilot had last flown under those licences, or his total number of flight hours.

### **Weather information**

The weather conditions before and after the occurrence flight were consistent with visual meteorological conditions.

The aerodrome closest to the occurrence site to issue hourly automatic aerodrome routine meteorological reports (METAR AUTO) was Fredericton Airport (CYFC), New Brunswick, located about 15 NM to the southeast.

The hourly METAR AUTO, issued at 1000, indicated the following:

- Winds from 310° true at 6 knots, variable between 200° and 330°
- Visibility of 9 statute miles
- Clear sky
- Temperature 21 °C and dew point 16 °C
- Altimeter setting 29.93 inches of mercury

The METAR AUTO issued at 1100 indicated similar conditions, with only the following changes:

- Winds variable at 5 knots
- Temperature 23 °C
- Altimeter setting 29.94 inches of mercury

### **Aircraft information**

The Earthstar Aircraft eGull is an electric-powered variant of the single-seater Thunder Gull aircraft. It is registered in Canada as a basic ultralight aircraft. The occurrence aircraft's airframe came as a kit from the manufacturer and was built by the occurrence pilot from 2018 to 2019.

According to the application for registration submitted to Transport Canada for the occurrence aircraft, its maximum take-off weight was 750 pounds, its empty weight was 415 pounds, and its stall speed was 32 mph.

The aircraft had a tricycle gear configuration, composite propeller, and an electric motor from a motorcycle capable of producing up to 52 kW of power (about 70 hp) (Figure 1). The battery capacity allowed for a typical flight duration of 70 minutes.

Figure 1. Photo of an exemplar eGull (Source: <https://commons.wikimedia.org/wiki/File:EGull2000.jpg>)



### Basic ultralight regulations

A basic ultralight is defined in the *Canadian Aviation Regulations* as:

an aeroplane having no more than 2 seats, designed and manufactured to have

- (a) a maximum take-off weight not exceeding 544 kg [1200 lb], and
- (b) a stall speed in the landing configuration ( $V_{so}$ ) of 39 knots (45 mph) indicated airspeed, or less, at the maximum take-off weight.<sup>2</sup>

Basic ultralights may be used recreationally in Canada in accordance with section 602.29 of the *Canadian Aviation Regulations*. Occupants of basic ultralights must wear a protective helmet.<sup>3</sup> The occurrence pilot was not wearing a helmet.

Basic ultralights are operated without a certificate of airworthiness, which means that the design, construction, and maintenance of the aircraft are not subject to any form of oversight by Transport Canada. It is the owner's responsibility to maintain the aircraft so that it is safe for flight.<sup>4</sup>

### Impact and wreckage information

The aircraft impacted terrain in a steep nose-down attitude. From the leading edge of the wings forward, the aircraft was crushed. The impact was not survivable.

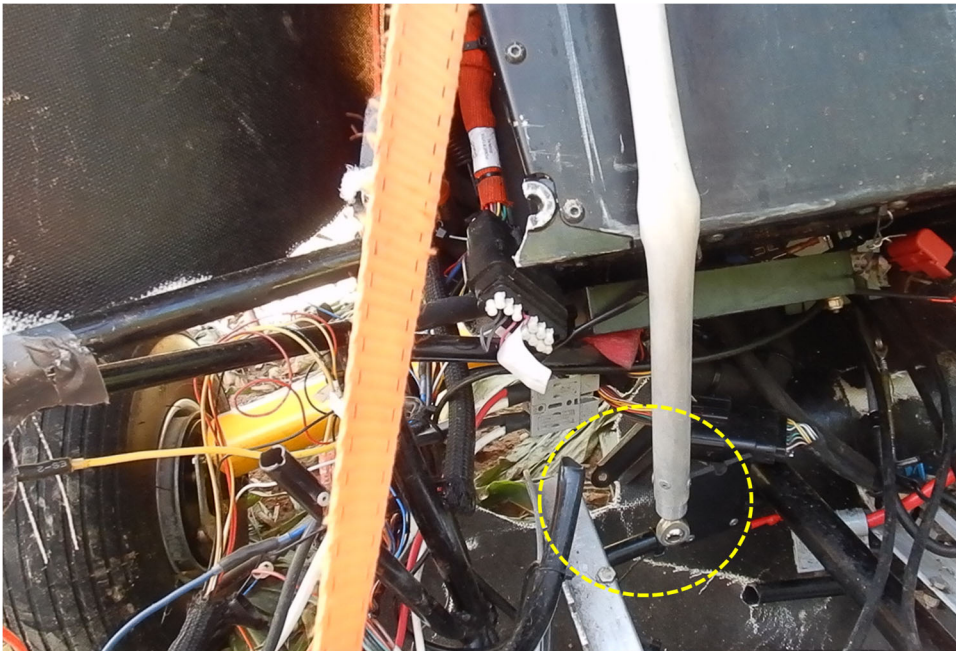
<sup>2</sup> Transport Canada, SOR/96-433, *Canadian Aviation Regulations*, section 101.01.

<sup>3</sup> Ibid., subparagraph 602.29(1)(f)(ii).

<sup>4</sup> Transport Canada, *Ultra-light Aeroplane Transition Strategy* (10 October 1996), Section 2.3: Basic Ultra-light Aeroplane Manufacturer/Owner Responsibility.

During the examination of the wreckage, it was discovered that hardware at the attachment between the control column bellcrank and the lower end of the aileron push tube assembly was missing (Figure 2). A bolt with the correct diameter and length was found in the wreckage; however, the matching nut was not found. There was no deformation present on either the bolt or the attach hole of the bellcrank, or damage to the aileron push tube rod end, indicating that the bolt likely fell out before the aircraft impacted the ground. The disconnected aileron push tube would have prevented aileron control, which would have made controlling the aircraft difficult.

**Figure 2. Wreckage, with push tube rod end and control column bellcrank circled**  
(Source: TSB)



Instrumentation was collected from the wreckage and sent to the TSB Engineering Laboratory in Ottawa, Ontario. This included a ProteGear GPS (global positioning system) tracker, a motorcycle instrument panel (for battery monitoring), and an electronic flight instrument system. Other than data from the GPS, which provided position reports at 1-minute intervals, no other data was able to be retrieved.

### **TSB laboratory reports**

The TSB completed the following laboratory report in support of this investigation:

- LP113/2024 – NVM Data Recovery - Various

### **Safety message**

Given that the design, construction, and maintenance of ultralights are not regulated, it is important that aircraft owners understand that they are responsible for ensuring that their aircraft are built and maintained for continued safe flight.

This report concludes the Transportation Safety Board of Canada's investigation into this occurrence. The Board authorized the release of this report on 29 January 2025. It was officially released on 05 February 2025.

Visit the Transportation Safety Board of Canada's website ([www.tsb.gc.ca](http://www.tsb.gc.ca)) for information about the TSB and its products and services. You will also find the Watchlist, which identifies the key safety issues that need to be addressed to make Canada's transportation system even safer. In each case, the TSB has found that actions taken to date are inadequate, and that industry and regulators need to take additional concrete measures to eliminate the risks.

## ABOUT THIS INVESTIGATION REPORT

This report is the result of an investigation into a class 4 occurrence. For more information, see the Policy on Occurrence Classification at [www.tsb.gc.ca](http://www.tsb.gc.ca)

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