



# **Air Accident Investigation Unit Ireland**

**PRELIMINARY REPORT**

**ACCIDENT**

**Bede Aircraft Corp, BD5GR, EI-DNN  
Garranbaun, Co. Waterford, Ireland  
25 July 2015**



**An Roinn Iompair  
Turasóireachta agus Spóirt**

Department of Transport,  
Tourism and Sport

**PRELIMINARY REPORT**

**AAIU Report No: 2015 - 015**  
**State File No: IRL00915044**  
**Report Format: Preliminary Report**  
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This Investigation is conducted 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. This Preliminary Report contains information, as known at this time, and does not contain analysis or conclusions. This information is therefore subject to change, and may contain errors; any errors in this Report will be corrected in the Final Report. The sole purpose of this Investigation is the prevention of aviation accidents and incidents. It is not the purpose of this Investigation to apportion blame or liability.

<b>AIRCRAFT MANUFACTURER:</b>	<b>Bede Aircraft Corp, EI-DNN</b>
<b>Model:</b>	<b>BD5GR</b>
<b>Nationality:</b>	<b>United States of America (USA)</b>
<b>Registration:</b>	<b>EI-DNN</b>
<b>State of Registry:</b>	<b>Ireland</b>
<b>Serial Number:</b>	<b>HJC4523</b>
<b>Year of Manufacture:</b>	<b>1973</b>
<b>TYPE OF OPERATION:</b>	<b>General Aviation</b>
<b>DATE / TIME (UTC)<sup>1</sup>:</b>	<b>25 July 2015 @ 17.43 hrs</b>
<b>POSITION:</b>	<b>Garrenbaun Co. Waterford N 52° 6.98', W 007° 32.51'</b>
<b>PERSONS ON BOARD:</b>	<b>Crew - 1</b>
<b>INJURIES:</b>	<b>Crew - 1 (Fatal)</b>
<b>DAMAGE:</b>	<b>Aircraft Destroyed</b>
<b>INVESTIGATOR-IN-CHARGE:</b>	<b>Paul Farrell</b>

<sup>1</sup> **UTC:** Co-ordinated Universal Time. All timings in this report are quoted in UTC; to obtain the local time add one hour.  
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## 1. HISTORY OF FLIGHT

The aircraft was on a general aviation flight from Waterford Airport (EIWF) where it was normally based. At 17.30:14 hrs the aircraft contacted Waterford ATC requesting taxi *“for this flight to Shannon”*. When queried as to his maximum en-route altitude the Pilot replied *“max would be up to three thousand”*. At 17.30:52 hrs EI-DNN was cleared by Waterford ATC to backtrack and line up for Runway (RWY) 21. The Pilot advised Waterford ATC *“I’ll be routing along the coast to Ardmore first before going on to Shannon”*. At the same time Waterford ATC was in communication with Shannon ATC requesting a transponder code for a *“VFR departure EIDNN to Shannon at three thousand”*. Shannon assigned the transponder code *“2623”* and Waterford advised Shannon of EI-DNN’s intentions *“he’ll be routing down towards Ardmore and then direct to Shannon and he’ll be remaining clear of the controlled airspace around Cork”*.

The aircraft departed EIWF at 17.33 hrs. The aircraft transferred to Shannon ATC at 17.38:49 hrs. The quality of radio transmissions to Shannon was poor. EI-DNN can be faintly heard calling Shannon at 17.38:49 hrs *“Shannon good evening Echo India Delta November November”*. The transmission was so faint that it was not acknowledged by ATC. At 17.39:12 hrs the aircraft called again *“Shannon good evening Echo India Delta November November”*. This transmission, although crossed with another louder transmission, was heard by ATC who responded at 17.39:26 hrs *“Echo India Delta November November Shannon QNH is 1014”*. The Pilot responded *“1014 level at one thousand two hundred just coming to Dungarvan, routing to Ardmore before heading to Shannon. At Ardmore...(unreadable)”*. At 17.39:49 hrs there was a routine exchange between EI-DNN and ATC Shannon relating to the Pilot’s intentions to route to Shannon after Ardmore and that the Danger Area D6 was active.

At 17.41:44 hrs EI-DNN transmitted *“Shannon, Echo India Delta November November engine problem”*. Shannon ATC responded *“November November your transmissions are very weak”*. EI-DNN then transmitted *“Shannon Echo November November engine failure or ah engine problem. Heading back to”... The end of this last transmission was then drowned out by another aircraft’s louder transmission.*

At 17.42:41 EI-DNN transmitted *“Shannon Echo November November Mayday Mayday Mayday I’m going to have to land”*. On hearing the transmission ATC responded *“Echo India Delta November November go ahead again”*. The aircraft then broadcast *“Mayday, Mayday Mayday. I have engine failure. I have an engine on fire”*. ATC acknowledged and queried *“Roger, are you going back to Waterford”*, to which EI-DNN replied *“Negative I’m just going to have to find a field”*.

Shannon ATC then contacted Waterford ATC by telephone to apprise them of the situation and advised that EI-DNN may be returning to EIWF. A second aircraft, which was following EI-DNN to Ardmore and Shannon, had just taken off from EIWF and the two controllers discussed the co-ordination of this aircraft’s instructions to ensure that it did not affect EI-DNN. The second aircraft which was just at the boundary of the Waterford control zone was advised to remain north of Kilmacthomas.

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At 17.42:54 hrs Shannon ATC called EI-DNN *“Echo India Delta November November report persons on board”*. The Pilot replied *“Ah one POB. I’ve lost elevator authority as well as the fire”*. This was acknowledged by Shannon ATC. A final transmission was then heard from EI-DNN which was very difficult to understand but did contain the phrase *“ending up in a field”*. The Investigation notes that the Pilot’s voice was composed and professional during these transmissions.

Shortly afterwards, at 17.43:40, the second aircraft reported *“Eh I can see some smoke ahead of me on the ground”*. The second aircraft routed to the area where the smoke was observed, confirmed to Waterford ATC that EI-DNN had crashed, passed latitude and longitude information for the crash site to ATC and, at ATC’s request, remained on station for a period of time.

Waterford ATC alerted the emergency services, as did several members of the public.

## 2. AIRCRAFT

The BD5GR aircraft type was a kit plane designed by Jim Bede and sold by the Bede Aircraft Corporation in the early 1970s. The Pilot, who was also the owner, built the aircraft from such a kit. The aircraft fuselage was 17 ft long with a 17.5 ft wingspan and the aircraft thrust was provided by a pusher propeller. The original design envisaged the availability of a two-stroke engine to power the propeller, but such an engine was never made available. Of more than 5,000 kits sold, few were completed. Those that were completed used a variety of engine installations. In the case of the accident aircraft the Owner had incorporated a Midwest AE 110, twin rotor, water cooled, rotary (Wankel) engine which delivered 110 horsepower (HP) at 7,000 revolutions per minute (RPM). The rotary engine installation was known to be particularly noisy.

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## 3. IMPACT SITE

The aircraft impacted into agricultural land at Garranbaun, Co. Waterford, Ireland. Site observations show that the aircraft was upright when it impacted, travelling in a northeasterly direction. First contact was between the left wing tip and a tree in a boundary hedgerow. The wing tip separated at this point. As the aircraft travelled onwards it lost the left aileron and then the entire left wing. The remainder of the aircraft then impacted a second boundary hedgerow and tumbled before coming to rest in the hedgerow between two fields. There was evidence of significant fire, post impact, at the main wreckage site, at the site of the separated left wing and at the second hedgerow impact. Plumes of black smoke were reported by witnesses and black sooting was evident throughout the wreckage trail. Initial site examination confirmed that there was significant fire damage to the aircraft. The wreckage was carefully documented and removed to the AAIU facility at Gormanston, Co. Meath.



#### **4. WITNESSES**

Several members of the public contacted the Investigation to report sightings of the aircraft and the Investigation is reviewing their accounts. The Investigation also received information and photographs from the pilot of the second aircraft.

#### **5. FURTHER INVESTIGATION**

Wreckage examination is continuing at the AAIU Gormanston Hangar. The Investigation is working to identify, in so far as possible, what fire damage occurred whilst airborne, what fire damage occurred on the ground and the reasons for both the reported engine fire and the loss of elevator authority. Full records for the aircraft are awaited.

The Investigation is on-going and a Final Report will be published in due course.

- 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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