

ACCIDENT

Aircraft Type and Registration:	EV-97 Teameurostar UK, G-CFNW	
No & Type of Engines:	1 Rotax 912-UL piston engine	
Year of Manufacture:	2008 (Serial no: 3317)	
Date & Time (UTC):	5 March 2022 at 1100 hrs	
Location:	A6105, 1.5 Miles East of Duns, Scottish borders	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Minor)	Passengers - N/A
Nature of Damage:	Damaged beyond economical repair	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	60 years	
Commander's Flying Experience:	950 hours (of which 499 were on type) Last 90 days - 7 hours Last 28 days - 6 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

After a precautionary field landing two days prior, G-CFNW was attempting to take off on a public road. The left wing struck a hedge at the side of the road causing the aircraft to turn through 180° and come to rest on top of the hedge. The pilot had not requested permission to use the road from the local council, nor had he informed the police of his intentions.

History of the flight

On 3 March 2022 the pilot was flying G-CFNW from Sherburn-in-Elmet Airfield in Yorkshire to Perth Airport in Scotland when he was confronted by deteriorating weather as he crossed the Scottish border. He descended to remain clear of cloud and, assessing that he would not be able to continue the flight under VFR, made a precautionary landing in the nearest suitable field just over 3 km to the east of Duns (Figure 1).

The pilot secured the aircraft and spoke with police who had been alerted to the landing by members of the public. He also informed the aircraft operator and landowner of the situation and of his intent to return to the aircraft on the following day to fly it out of the field. However, due to heavy rain and low cloud, the weather on the following day was unsuitable for a VFR flight. On Saturday 5 March 2022, the pilot flew back to the landing site, accompanied by another pilot, landing next to G-CFNW at around 1010 hrs. He found that the field had become saturated from the previous day's rain and was now very boggy.

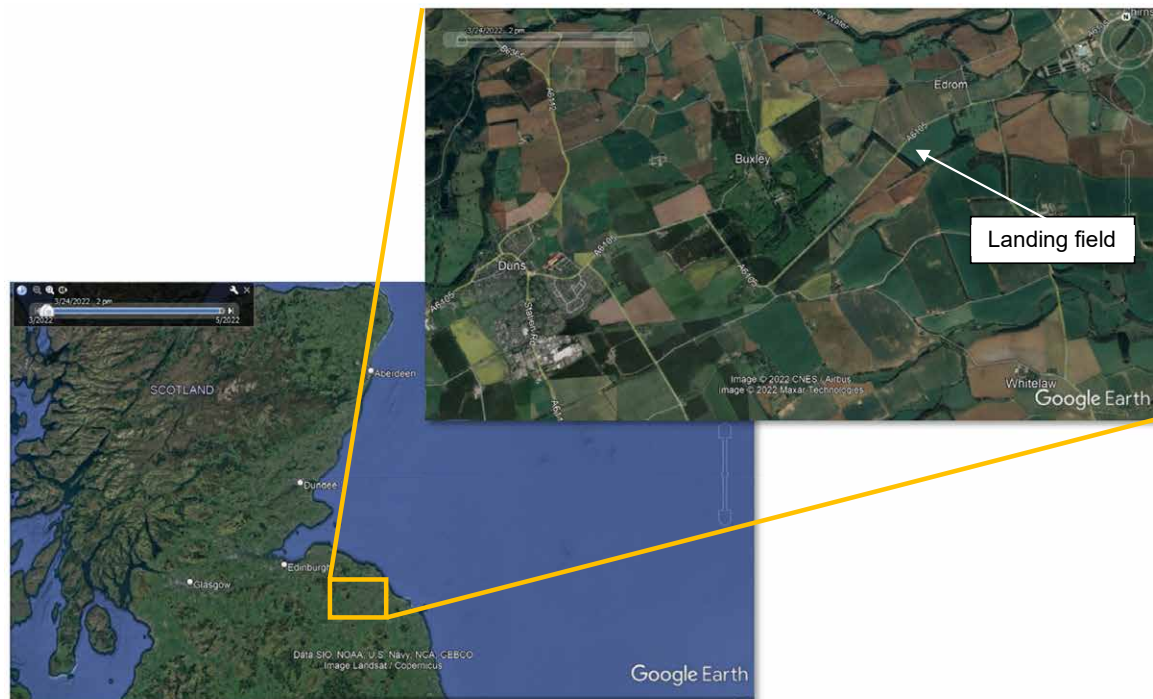


Figure 1

Location of precautionary landing field

Both pilots walked the field to assess its condition and decided that it was unsuitable and that it would be unsafe to attempt a takeoff. The northern side of the field is bounded by the A6105 road, with further fields beyond, and the pilot stated that the only clear area available for him to use for takeoff was the road, running in a south-westerly direction. He paced out approximately 700 m of straight road that he believed was suitable for the takeoff run. He reported that the straight section of the road was longer than the distance required for takeoff with reference to the AFM. The road surface was smooth, with a dashed white centre line, and was lined on both sides by hedges with a gap between them that he judged to be sufficient. He concluded that the road would be a safer takeoff surface than the field. The weather was CAVOK with a wind from 310° at less than 10 kt. A number of local residents, who had arrived to assist the pilot, were sent to close the road to traffic.

At approximately 1100 hrs the pilot positioned his aircraft on the road and commenced his takeoff run, applying full power and with one stage of takeoff flap selected. Just as he reached takeoff speed and started to rotate, he stated that “a strong gust of wind” blew the aircraft to the left. He attempted to counter this with right rudder and aileron inputs, but the right wing tip contacted the road surface and yawed the aircraft to the right. He then felt the left wing tip strike the hedge on the left side of the road causing the aircraft to rotate through 180° and come to rest on top of the hedge facing northeast. The pilot sustained minor injuries but was able to shut down and egress the aircraft. The police arrived shortly afterwards having been flagged down by a member of the public reporting an aircraft crashed by the side of the road.

The pilot had not contacted Scottish Borders Council or Police Scotland to seek permission and assistance to use the public road as a makeshift runway. He informed the AAIB that he had felt a sense of urgency to return the aircraft to the operator as it was due to be used for revenue flights, and he was concerned about its security as it was in clear sight from the road.

The A6105

The A6105 connects the village of Earlston to Berwick-upon-Tweed, passing through Duns. It is single carriageway and the police reported that it is often busy with local traffic. For road and obstacle dimensions see Figure 2.

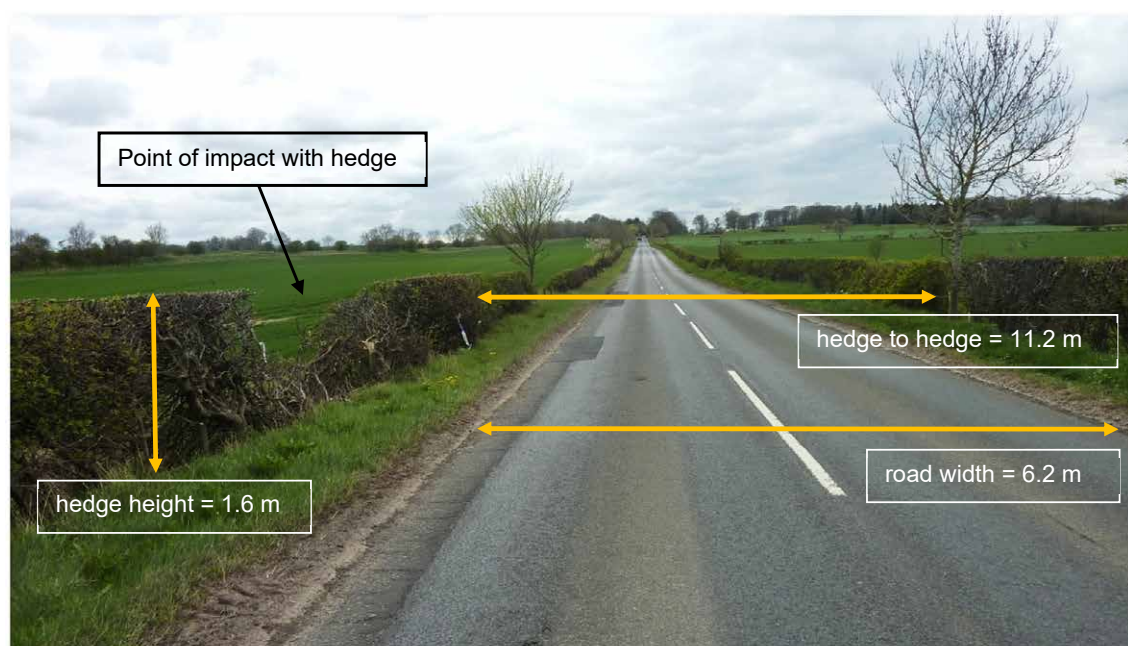


Figure 2

A6105 looking south-west towards Duns along the takeoff path
(image used with permission)

The A6105 is administered by the Scottish Borders Council who informed the AAIB that in order to use the public road as a runway, the pilot would need to formally request permission with sufficient notice to allow proper consideration of the merits of the request and input from all relevant stakeholders. However, they added that they would not expect access to the road network to be granted other than in “extreme circumstances”, in which case the police would be required to close the road and establish a suitable diversion for traffic to ensure safety. The Council confirmed that they had not received such a request from the pilot.

Aircraft wing dimensions

The EV-97 Teameurostar UK has a wingspan of 8.1 m giving a clearance on each wing tip of 1.55 m from the hedges at the side of the road.

Regulations and guidance material

Air Navigation Order (ANO)

The ANO states that the pilot in command is responsible for *'the operation and safety of the aircraft'*, and *'must only use aerodromes and operating sites that are adequate for the type of aircraft and operation concerned'*. Additionally, before commencing a flight, the pilot in command *'must be satisfied that the flight can be made safely'* and ensure that *'procedures are established and followed for any reasonably foreseeable emergency situation'*.

Civil Air Publication (CAP) 793 (2010): Safe Operating Practices at Unlicensed Aerodromes

CAP 793 provides guidance to the owners of, and those who fly from, unlicensed aerodromes and sites to enable safe operating practices to be met. The recommended minimum runway dimensions are:

- Microlight (< 450 kg MTOM): runway width – 10 m (15 m if within crop above 33 cm high); no vertical obstacles within 25 m either side of the centreline.

CAA Safety Sense Leaflet 12 (2022): Strip Flying

The CAA publishes Safety Sense Leaflet 12: *Strip Flying*, which is intended to assist pilots to think about safety when planning to fly to a strip for the first time, and provides general operational guidance. The leaflet summary contains the following guidance:

'When planning a flight to a new strip, consider the following points:

- **Permission** – *do you have permission to use the strip?*
- **Suitability** – *have you satisfied yourself it is safe to operate there with your aircraft and flying experience?*
- **Skill level** – *is your flying accurate enough and are you suitably competent in the steep approach (if applicable) and short field techniques for your aircraft?*
- **Planning** – *have you planned your approach and departure profiles, including any special manoeuvres or noise abatement procedures?'*

CAP 1535 (2021): Skyway Code

The Skyway Code is intended to provide General Aviation pilots with practical guidance on the operational, safety and regulatory issues relevant to their flying. It states that:

'Good decision making is one of the first lines of defence against risk since it allows for risks to be avoided or mitigated, rather than relying purely on skill or luck to manage them.'

To assist the decision-making process, the 'PAVE' checklist is suggested as a thematic way to assess risk as part of the pre-flight check process:

- *'Pilot – things like currency, fitness.'*
- *Aircraft – airworthiness, capabilities, limitations.*
- *EnVironment – weather, facilities, terrain, airspace.*
- *External pressures – time pressure, delays, passengers.'*

Additionally, to inform the threat and error management (TEM) process, the Skyway Code offers the following guidance on decision making:

- *'Adopt a cautious attitude to decision making, always checking information and carefully considering the different factors.'*
- *Adopt a risk-based approach – identify risks such as weather or lack of currency. If you identify a number of risks on a particular flight, question whether it is sensible to proceed. Consider modifying your plans to reduce some of the risk factors.'*
- *Always ask the 'what if?' question.'*
- *Avoid exposing yourself to pressure to complete a flight.'*

Analysis

The accident occurred because the pilot was unable to maintain sufficient directional control of the aircraft during the takeoff to prevent the left wing colliding with the hedge. The pilot believed this was because of an unexpected gust of wind. The hedges were 1.6 m high and the clearance on each wing tip was 1.55 m. Both the width of the road and the distance between the hedges lining the road were significantly less than the minimum dimensions recommended by the CAA in CAP 793: that the runway width should be 10 m and that there should be no vertical obstructions within 25 m of the centreline.

The ANO is clear that the pilot in command *'must only use aerodromes and operating sites that are adequate for the type of aircraft and operation concerned'*. The A6105 was not adequate for use as an aircraft operating site.

The ANO is also clear that before commencing a flight the pilot in command *'must be satisfied that the flight can be made safely'* and ensure that *'procedures are established and followed for any reasonably foreseeable emergency situation'*. By not seeking the permission of the Scottish Borders Council and the input of relevant stakeholders in the operation, maintenance and safety of the A6105, the pilot could not assess the wider safety implications of his planned course of action and the risks that might present to third parties.

The CAA provides considerable guidance for GA pilots to assist in good decision making. A sound working knowledge of this material is an essential part of the TEM process of recognition and avoidance of potential threats in the first instance. The pilot made a sound

decision in making a precautionary landing when he encountered weather conditions unsuitable for VFR flight. However, when he returned to the landing site and found the situation was not as he expected, had the regulations and guidance been considered, it is probable that this accident would have been avoided.