

Accident

Aircraft Type and Registration:	Eurofox 2K, G-CMAX	
No & Type of Engines:	1 Rotax 915 iS piston engine	
Year of Manufacture:	2021 (Serial no: 62421)	
Date & Time (UTC):	27 December 2025 at 1130 hrs	
Location:	Talgarth Airfield, Powys	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Serious)	Passengers - N/A
Nature of Damage:	Damage to propeller, cockpit and wing disruption	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	81 years	
Commander's Flying Experience:	2,249 hours (of which 54 were on type) Last 90 days - 1 hour Last 28 days - 0 hours	
Information Source:	AAIB Field Investigation	

Synopsis

Immediately after takeoff, the tug aircraft in a glider-tug launch combination rolled, uncommanded, to approximately 60° left wing down. The glider disconnected and landed safely ahead, but the tug aircraft turned left and touched down within the airfield boundary before becoming airborne again. Control of the aircraft was then lost and it struck the ground in an adjacent field. The sole pilot was seriously injured.

The wind at the time of the accident was fully across the runway in use and may have been above the crosswind limit of the aircraft. Turbulence encountered by the aircraft during the flight immediately before the accident indicated that the air mass over the runway was unstable and is likely to have been so during the accident flight, probably causing the initial roll and subsequent loss of control.

As a result of this accident the gliding club improved the weather reporting system to provide more accessible and accurate wind measurements to pilots and began work to improve the safety culture at the gliding club.

History of the flight

The pilot initially intended to take off to the east, into wind. However, it was discovered whilst setting up that the launch area was wet and too boggy to operate from. Following a conversation between the duty instructor and the tug pilot it was agreed to change runways

and operate from the north-westerly runway¹, accepting a 90° crosswind from right to left. Whilst moving the glider to the new launch area, G-CMAX departed from the north-westerly runway without a glider attached to check the local flying conditions. It was common practice at the club for the tug aircraft to fly for about 10 to 15 minutes before the start of gliding operations to check for rotor turbulence from the mountains in the area in which the gliders were going to be flying. The aircraft was seen returning to the airfield and making an approach in the reciprocal direction to departure. As the wind was blowing at right-angles to the chosen runway, neither direction had a favourable headwind. On final the aircraft was observed being rocked considerably by turbulence. The amount of rocking was enough for a club member to comment on it to a fellow member. The aircraft was seen to climb away after which the pilot made a second approach to the same runway and landed.

The tug aircraft taxied over to the waiting ASK13 glider, and the glider was attached to the aircraft for launch. The glider had two experienced glider pilots onboard, both pilots being qualified gliding instructors. The pilot of the tug aircraft was also a qualified gliding instructor and had over 20 years of tug flying experience. The tug-glider combination was observed to accelerate slowly due to the boggy nature of the grass runway, but this had been anticipated and the launch had been commenced close to the boundary fence to leave as much takeoff distance as possible. Once the combination was airborne the tug aircraft was observed rocking from side to side and then to drop the left wing by approximately 60°. On seeing this the glider pilot released the tow and performed a safe landing within the airfield boundary. The tug aircraft turned approximately 60° to the left (downwind), increasing the tailwind component that it was experiencing. The main landing gear tyres touched the ground briefly, whilst the aircraft was tracking towards a line of trees. The aircraft became airborne again and was observed to be climbing “almost vertically” as viewed from the launch point. The aircraft passed over the trees and a small hangar, the left wing dropped, and the aircraft descended rapidly into a field just outside the airfield boundary.

Accident site

The aircraft came to rest in a field to the west of and adjacent to the gliding site (Figure 1). Damage to the aircraft’s wings, a wire fence on the edge of the field and ground scars in the field indicated that the aircraft initially clipped the top of the fence with its left wingtip before striking the ground in a nose down attitude. It then turned horizontally through 270° before coming to rest on its wheels, facing in a northerly direction. The glider towing line remained attached to the aircraft and trailed over the boundary fence and foliage, indicating the direction from which the aircraft had come (Figure 2).

Footnote

¹ Runways at the airfield are named using words to represent the takeoff direction rather than °M.

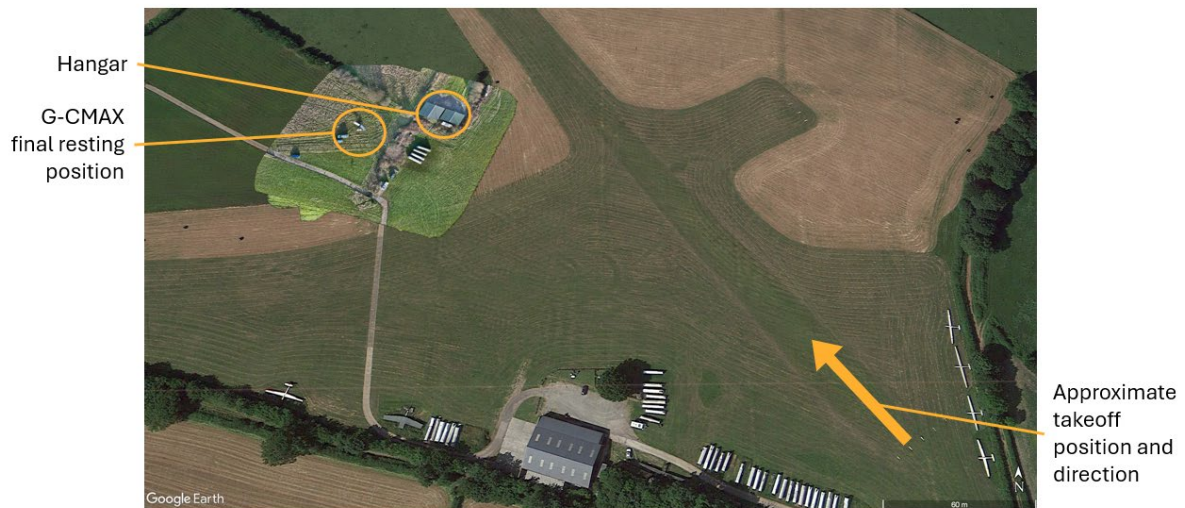


Figure 1

Google Earth image of Talgarth Airfield with aerial image of G-CMAX accident site overlaid



Figure 2

G-CMAX final resting position – note tow rope trailing over foliage in the right of the image

Wheel marks in the soft ground between the runway and the accident location indicated that the aircraft touched down briefly and became airborne again before crossing the airfield boundary (Figure 3).



Figure 3

Tyre marks in airfield from G-CMAX and towed glider

Although the wings remained attached to the aircraft, the left wing had been displaced forwards and the right rearwards by approximately 45°. The cockpit had been severely disrupted.

The Rotax 915 iS engine was largely intact and one of the four propeller blades was missing from approximately 25% height. One of the remaining blades had also fractured at the hub but remained attached.

Examination of the aircraft found no pre-existing damage that would indicate a loss of continuity from the pilot's controls to the primary flying surfaces. The flap lever was found in the UP position and trim towards NOSE DOWN.

The aircraft had been tethered to the ground and de-fuelled by the first responders before the AAIB arrived.

Recorded information

The aircraft was fitted with an Engine Control Unit (ECU) which logged engine parameters for the last hour of operation. The ECU was downloaded and the accident flight was recorded at up to 10 samples per second. The data confirmed that the engine was responding and operating as expected. Figure 4 shows the throttle command and engine speed, showing a full power demand on takeoff with engine rpm maintaining approximately 5,000 rpm. Towards the end of the recording, the throttle command was reduced to 21% for approximately 2 seconds before being restored to 100%.

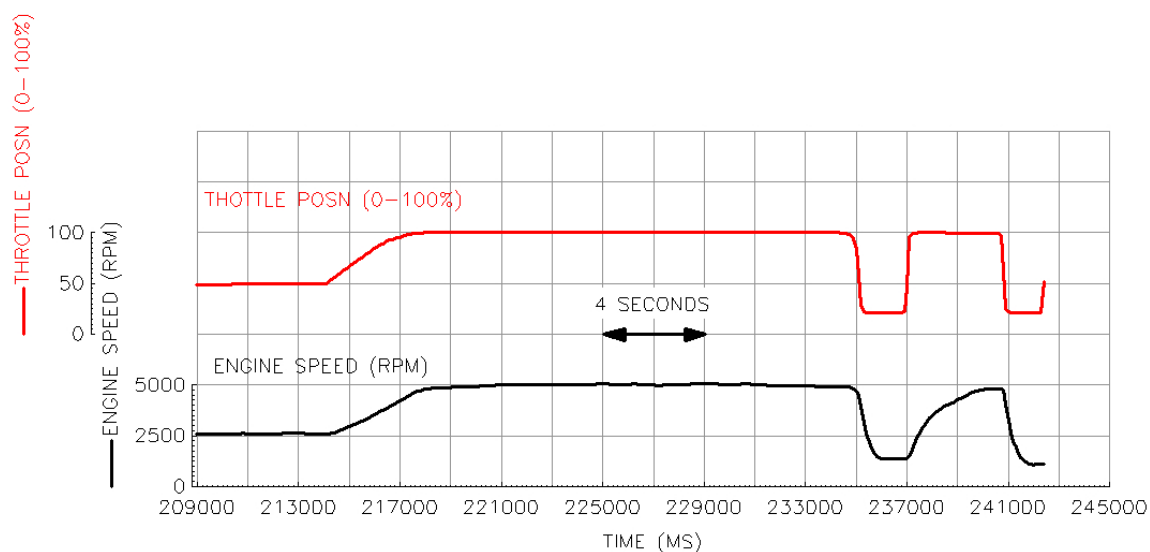


Figure 4
G-CMAX ECU data

Aircraft information

The Eurofox 2K aircraft is a conventional landing gear, two-seat, high-wing, tractor-engined, three-axis microlight aircraft with full span trailing edge flaperon roll/high lift devices. The welded steel tube fuselage structure is covered with painted poly-fibre fabric, as are the aluminium wing structures. The type can be powered by a range of engine and propeller combinations. G-CMAX was powered by a Rotax 915 iS engine with a DUC flash 3 four-bladed fixed pitch propeller.

G-CMAX was factory-built in 2021 and issued its Permit to Fly by the British Microlight Aircraft Association (BMAA) in May 2022, having been operated under a CAA flight test approval in the intervening time. At the time of the accident the aircraft had flown 482 hours and made 3,379 landings. The Permit had a current Certificate of Validity.

The aircraft was owned and operated by the gliding club and used solely as a glider towing aircraft. The Eurofox is a popular glider tug aircraft with over 50 operating in the UK for this purpose. The aircraft has a maximum crosswind limit for takeoff of 15 kt and a tailwind limit of 4 kt.

Weight and balance

At the time of the accident the aircraft had just the pilot on board and was within the published weight and balance limitations of the aircraft. The aircraft was towing an ASK13 two-seat glider with two pilots onboard, and the aircraft was approved by the manufacturer to tow this glider.

Aircraft performance

The manufacturer's approved pilot operating handbook gives a ground roll distance on a tarmac runway of 190 m when towing a ASK13 glider, Table 1. When corrected for a grass runway and an upslope on the initial ground run, the true ground run is 270 m with an additional 70 m distance to clear a 15 m obstacle. This means the total distance required to clear a 15 m obstacle is 340 m.

Ref nr	EuroFOX 915iS take off weight	Glider type, POB and MAUW	Ground roll distance tarmac	Time to 2000 feet from "all out" and start of ground roll	Best rate of climb towing speed	Distance to clear 15m obstacle
1	550kgs	Oly 2b Vintage One POB 304kg	170m	2.14 Mins	50 kts @ 1/2 flap	60m
2	540kgs	K13 2 POB 280kg	190m	2.43 Mins	60kts	70m

Table 1

Excerpt from Appendix 1 of the Eurofox POH

Meteorology

Talgarth Airfield is located close to the Black Mountains in Wales, and this affects the local weather. Conditions at the airfield are regarded as very changeable and can be challenging at times, due to the nature of the localised weather. There is no official source of weather information near the airfield, and so the club uses a variety of sources to determine weather conditions. These include websites providing forecasts primarily to mountain walkers, as well as Met Office aviation websites. The club has webcams looking east and west that are available for club members to view. To provide actual conditions at the club a weather station is situated at the clubhouse which feeds into a website, which also records the data. There is a windsock positioned north of the east/west runway that is visible from most locations on the airfield, including the starting position of G-CMAX takeoff roll. On any given day the flying conditions are assessed by the duty instructor using local knowledge and experience.

Weather station data from the day of the accident was recovered from the internet site which recorded parameters including wind speed, gust and direction every five minutes. Wind direction was recorded to the nearest 22.5° but the accuracy of the data could not be established. Figure 5 shows a time history of the recorded wind conditions on the day of the accident.

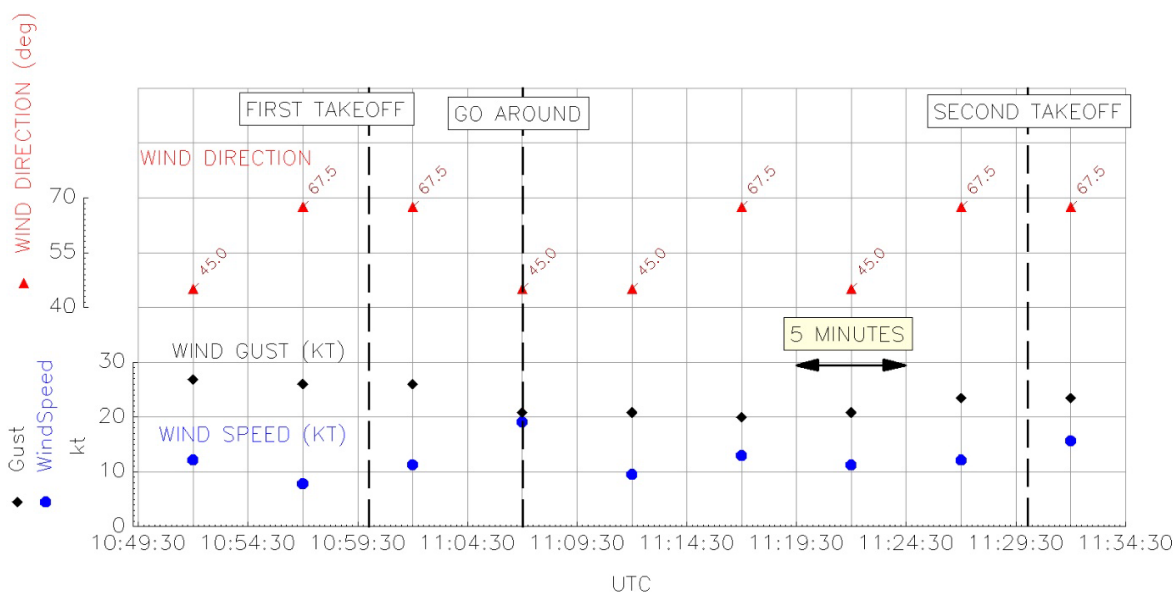


Figure 5

Weather data from airfield weather station (Credit: Weather Underground)

At the time of the accident the weather station at the clubhouse was reporting the instant windspeed as between 12 kt and 16 kt, gusting 23 kt from east-north-east. This wind was across the runway in use at the time. The temperature was 4°C with no precipitation and good visibility.

The pilot commented that local effects at the airfield meant that ground level winds along the runway were likely to be less than those recorded by the weather station when the wind was from the east.

Meteorological observations at aerodromes

For METAR reports, wind sensors are positioned to be representative of the wind at a height of 30 ± 3 ft above the ground. The weather station anemometer at Talgarth Airfield is situated on the hangar, approximately 25 ft above the ground.

Airfield information

Talgarth Airfield is located on the western slopes of the Black Mountains and is 970 ft amsl. The land slopes down from the centre of the strip, described on the gliding club website as being like an upturned saucer. When departing from the north-west runway, G-CMAX would have been starting its ground run with a slight upward incline after which it would have experienced a downward slope (Figure 6). The airfield is smaller than most typical gliding sites and can experience rotor turbulence from the nearby mountains. The north-westerly runway in use at the time of the accident has a length of 360 m. Challenges of operating from the airfield have been recognised by the gliding club, so a site briefing pack and video is available on the club's website to highlight these. It is compulsory for any pilot wanting to operate from the site to have reviewed this material. A briefing is conducted by the duty instructor every morning prior to the day's flying, and this briefing includes the prevailing weather conditions and threats for the day.



Figure 6

Talgarth Airfield runways published on Black Mountains Gliding Club website

Pilot information

The pilot of the tug aircraft was an experienced glider and powered aircraft pilot. He had held a PPL for 45 years and had completed over 12,000 aero-tow operations. He had been a gliding instructor since 1978 and had over 1,300 hours instructing on gliders.

The pilots in the glider were also experienced. Both pilots were instructors and had been flying for over 20 years, with one pilot having 2,400 hours gliding time and the other in excess of 4,000 hours.

British Gliding Association advice on safe aerotowing

The BGA have produced guidance on safe aerotowing of gliders, highlighting the dangers of tug upsets. The guidance explains that all tugs are vulnerable to upsets and that light tugs are more vulnerable. The Eurofox is considered a light tug. This guidance lists factors that could cumulatively contribute to a hazardous situation:

- *‘Low experience of glider and/or tug pilot*
- *Gliders fitted with C of G hook only*
- *Glider’s C of G towards the aft limit*
- *Turbulent air in the take-off area*
- *Rough ground in the take-off area*

- *Significant cross-wind component*
- *Short rope*
- *Light-weight glider, low wing loading.*¹

A more comprehensive document on managing flying risk whilst operating tug aircraft, produced by the BGA, is available on its website². Pertinent advice includes:

'Deciding enough is enough – Remember that however senior the glider pilot, the tug pilot is commander of the whole combination until release. It is the tug pilot's responsibility, after consultation with the person in charge, to terminate aero-tow operations if they are not happy to continue. Avoid towing in extreme conditions including weather where the aircraft handling on the ground or in the air becomes unreasonably difficult.'

The BGA advice³ is that certain hazards should be considered before takeoff. If three or more of the following factors are present, pilots should consider not launching the glider:

- *'Tow hook position*
- *Low-experience pilot*
- *Short tow rope*
- *All flying tailplane*
- *Lightweight glider pilot that might cause a rearward centre of gravity*
- *Turbulence and windshear*
- *Cross or slight tail wind.'*

A leaflet on aero-tow performance, available from the BGA, highlights that pilots make reasonable assumptions about takeoff performance based on many years of routine experience of the launch environment. However, this can lead to a situation where pilots adopt similar assumptions when the situation is not typical. The leaflet highlights factors affecting takeoff and climb performance, stating that even a slight tailwind will increase takeoff distance considerably, that a 90° crosswind will give no beneficial headwind, and that turning into a crosswind after takeoff adds energy and a better climb rate. It also cites turbulence, windshear and surrounding terrain as important factors to consider when aerotowing, pointing out that even a moderate wind may cause significant downdrafts.

CAA advice on operating from grass strip airfields

CAA Safety Sense Leaflet 12, *Strip Flying*⁴, gives guidance on operating from grass airfields and highlights that a straightforward landing site can become challenging with low level turbulence on windy days.

Footnote

² BGA Managing Flying Risk – Towing/Operating Tug Aircraft <https://members.gliding.co.uk/safety/managing-flying-risk-index/managing-flying-risk-index-managing-flying-risk-towing/> [accessed 12 May 2026].

³ BGA Safe Aerotowing <https://members.gliding.co.uk/safety/safe-aerotowing/> [accessed 12 May 2026].

⁴ CAA Safety Sense Leaflet 'Strip Flying' <https://www.caa.co.uk/media/lpwhsrfn/safetysense12-strip-flying.pdf> [accessed 12 May 2026].

Analysis

The loss of control

Shortly before the accident flight, the tug aircraft experienced severe turbulence on final approach, which was violent enough to be noticed and commented on by club members on the ground. It was only a short time after this that the tug-glider combination took off towards the area in which the tug had experienced the turbulence.

During the takeoff G-CMAX rolled left uncommanded and turned left by approximately 60°. During this time the glider under tow released from the tug and landed safely. G-CMAX briefly touched down within the airfield while tracking towards some trees and a single-story building. Recorded engine data confirmed that the throttle was closed, possibly in an attempt to land within the airfield perimeter, before full power was applied again. The aircraft was then seen to pull up into an almost vertical climb after which the left wing dropped, and the aircraft descended rapidly to the ground just outside the airfield perimeter. It is likely that after the initial touchdown the pilot pulled back on the control column to clear the obstacles and this reduced the airspeed of the aircraft leading to an aerodynamic stall and subsequent loss of control.

Assessment of the aircraft found no issues that could have caused an uncommanded roll during the takeoff. Review of the recorded data from the engine controller identified that the engine was operating normally during the takeoff and throughout the flight.

The decision to take off

The accident flight was conducted with an experienced tug pilot, and both pilots in the glider being towed were also experienced. All pilots had considerable time operating from Talgarth Airfield and were aware of the challenges of operating from this location. Initially the plan was to operate from an into-wind runway but it was too boggy, so following discussions between the tug pilot and duty instructor it was agreed to move to the north-westerly runway and accept a 90° crosswind.

The wind recorded around the time of the accident indicated a crosswind of 12-16 kt gusting to 23 kt. The published crosswind limit for the aircraft is 15 kt. Webcam images recorded from the club house confirmed the large variation in windspeed, but the wind direction remained constant. The pilot believed that at ground level along the runway the crosswind was likely to be less than the values recorded at the weather station, and so the decision was made to take off. There had been successful operations from the airfield many times previously in similar conditions and this might have supported a view that it would be no different on the day of the accident.

Pilots generally use reported surface wind to assess whether the wind exceeds an aircraft's crosswind limits, and the standard method of measuring surface wind requires the sensors to be representative of the wind at approximately 30 ft agl. Although the weather station at the airfield did not meet standard requirements for meteorological observations, the anemometer was at 25 ft agl and it is likely it would have given a reasonably valid value

for comparison with the aircraft's crosswind limit. The crosswind at ground level during the takeoff could not be determined, but it is likely that as soon as the aircraft began to climb it encountered the wind that was being recorded at the weather station and that wind may have exceeded the aircraft's crosswind limit. The aircraft also encountered the severe turbulence it had encountered on landing only shortly beforehand, and it is likely that the combination of the crosswind and turbulence caused the wing drop that began the accident sequence.

The conditions for gliding were favourable that day and the focus on the goal of towing the glider for its flight might have prevented the pilot from pausing to reflect on the hazards, identified in the BGA and CAA guidance, caused by the crosswind and the turbulence.

After the accident the club began to instil a culture whereby pilots asked themselves:

'Should we fly, rather than can we fly;'

and

'What's trying to catch me out today, what mistakes would make that more likely, and what am I going to do about it before launch?'

The club also introduced a live wind indicator on its website, accessible to all club members, which shows a mean two-minute wind and the maximum ten-minute gust. It also displays headwind, tailwind and crosswinds for all three runways.

Conclusion

G-CMAX took off with a glider under tow in gusty crosswind conditions and towards an area of turbulence. Immediately after liftoff the wing dropped, the aircraft began to turn left and the glider pilot disconnected from the tug. The tug touched down briefly but then began to climb steeply, probably in an attempt to clear obstacles ahead. The aircraft stalled, the wing dropped and the aircraft descended rapidly to the ground. It is likely that the gusty crosswind and turbulent conditions caused the rapid wing drop that led to the subsequent loss of control.

Safety actions

As a result of this accident, the gliding club improved its weather reporting system to provide more accessible and accurate wind measurements to pilots and began work to improve its safety culture.

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