Accident

Aircraft Type and Registration:	Cameron Z-275, G-VBFT	
No & Type of Engines:	No engines	
Year of Manufacture:	2009 (Serial no: 11215)	
Date & Time (UTC):	10 April 2025 at 1755 hrs	
Location:	Earls Colne, Essex	
Type of Flight:	Commercial Air Transport (Passenger)	
Persons on Board:	Crew - 1	Passengers - 10
Injuries:	Crew - None	Passengers - 1 (Serious) 1 (Minor) 8 (None)
Nature of Damage:	Significant fire damage to balloon envelope and basket	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	56 years	
Commander's Flying Experience:	332 hours (of which 19 were on type) Last 90 days - 28 hours Last 28 days - 10 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The balloon struck power cables during landing and severed them. The pilot did not see the cables until the balloon landed, and they were not depicted on any of the maps he used. The cables caused an ignition source which initiated a fire beneath the basket and caused metal parts of its structure to become electrically live. All those on board evacuated the basket. Two passengers were injured with one sustaining an electric shock.

History of the flight

The balloon took off from Petersfield village, Gosfield at 1653 hrs with ten passengers for a pleasure flight. The balloon climbed to an operating altitude of between 1,000 and 2,000 ft. The wind was 280° at approximately 8 kt so the balloon flew to the east. The flight path, recorded by GPS, is shown at Figure 1.

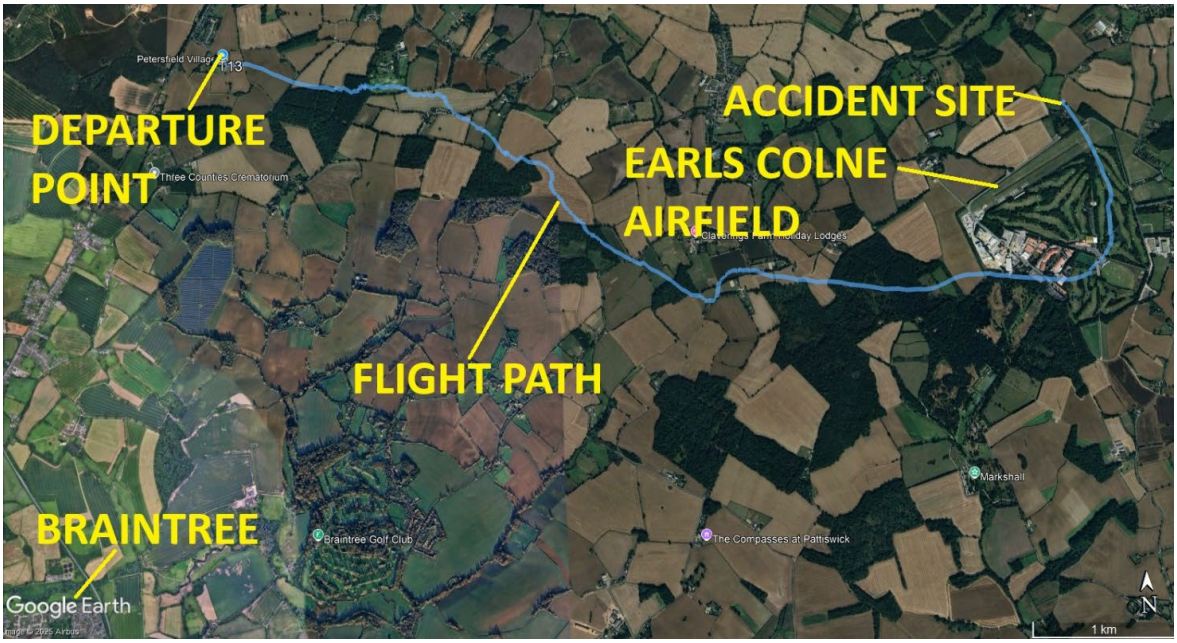

Figure 1

GPS flight path of G-VBFT

After flying for approximately 40 minutes the pilot commenced a descent and began to look for somewhere to land. The balloon was in the vicinity of Earls Colne airfield and although the airfield was closed, the pilot of G-VBFT was in radio contact with other aircraft in the vicinity. As the balloon descended the wind direction backed by approximately 90°, and the balloon flew North over Earls Colne. The pilot identified a suitable field for landing just to the north of Earls Colne and made an approach. The landing area is shown in Figure 2.

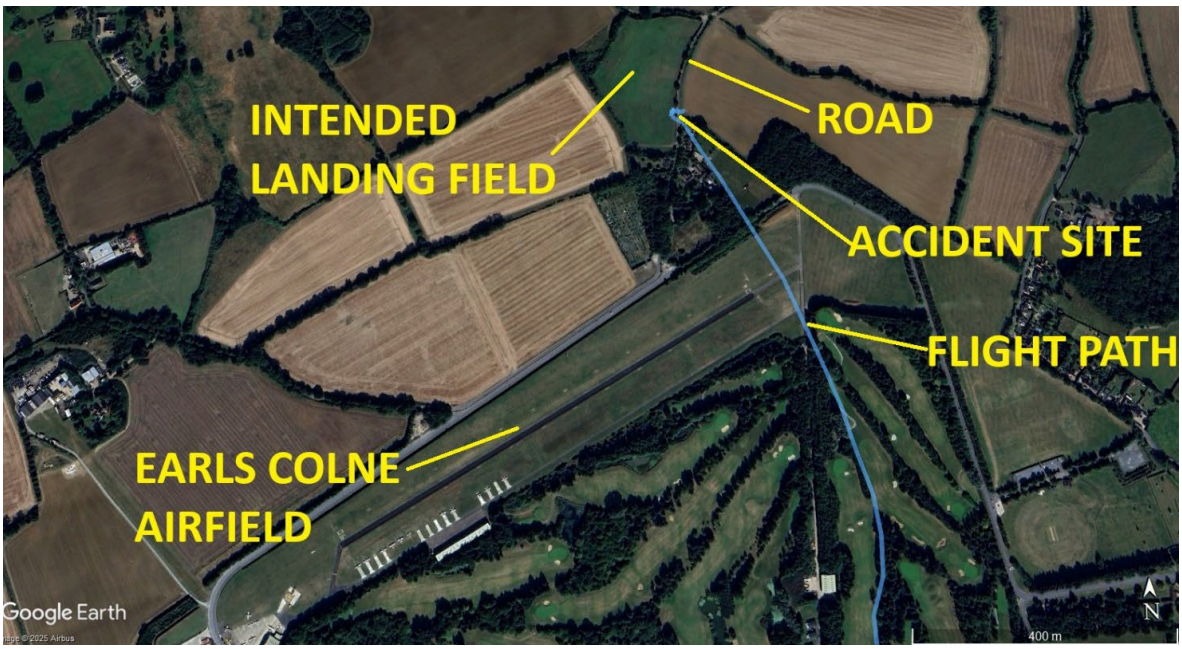

Figure 2

Landing area

The pilot observed a set of wires running along the road on the eastern edge of the intended landing field. He directed the passengers to take up their landing positions in the basket. The pilot described the approach as "normal". The balloon crossed the road and the wires, landing with the basket upright, just inside the chosen field, at 1757 hrs. The pilot intended to touch down as soon as possible after the field's perimeter, and the wires he had observed, to give maximum room for the envelope[1] to collapse downwind of the basket. Having the basket as close as possible to the perimeter would ease its subsequent recovery. The pilot's intent was to land keeping the basket and envelope upright for the passengers to disembark. After touchdown the pilot realised there was another set of wires approximately 30 ft into the field (Figure 3).

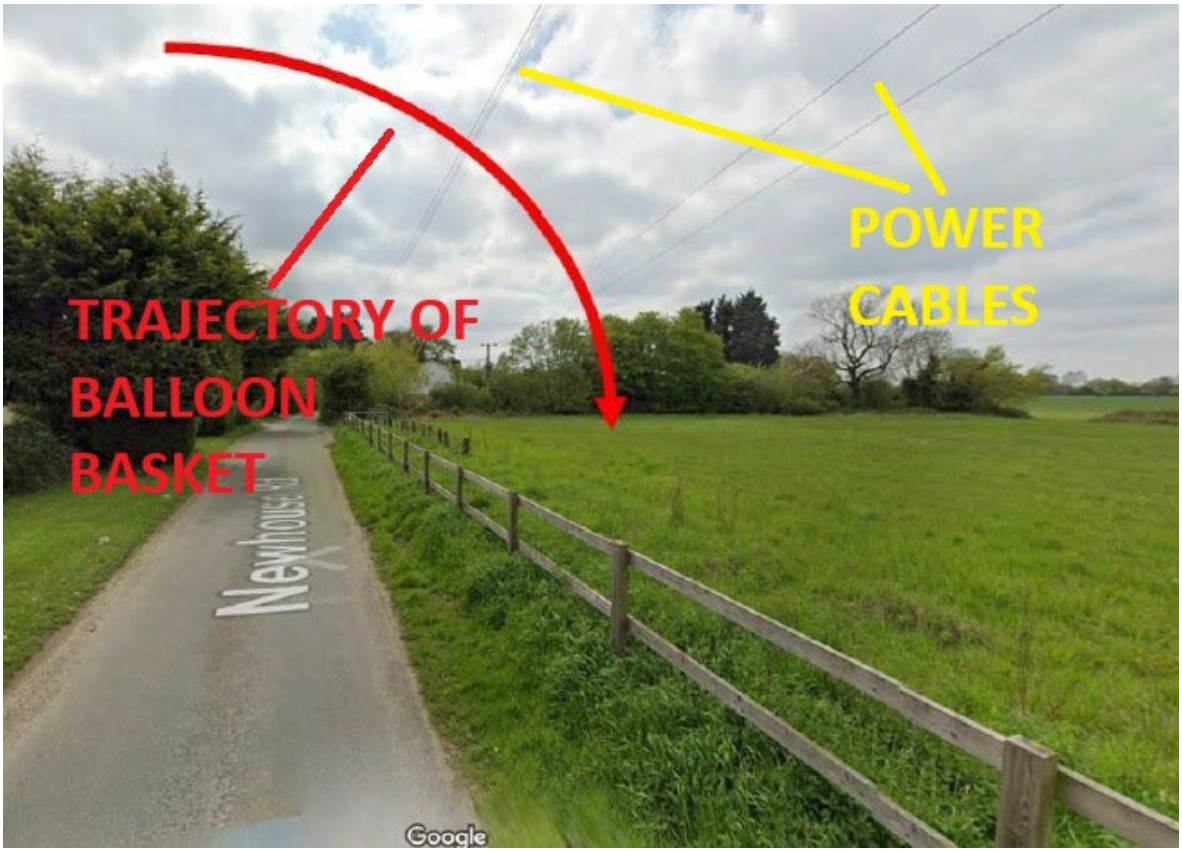

Figure 3

Landing site looking south along road

The balloon basket touched down and dragged a few feet. As the envelope began to deflate, the balloon hit the second set of wires, which were heard to break. The pilot turned off the fuel cylinders and the mouth of the balloon envelope descended over the burners (Figure 4). The pilot was uncertain where the wires had fallen and, being concerned about any threat of electrocution from the metal frame holding the burners, he elected not to extinguish the pilot flames.

Footnote

[1] The balloon envelope contains the heated air and provides lift. It is typically made of nylon, which is lightweight and durable, and is coated with materials like Nomex for flame resistance.

Figure 4

General arrangement of basket

The falling wires ignited the grass near the balloon (Figure 5) at around 1757 hrs and, shortly after, smoke began emanating from under the basket (Figure 6). The pilot told the passengers to get out and move clear of the basket.

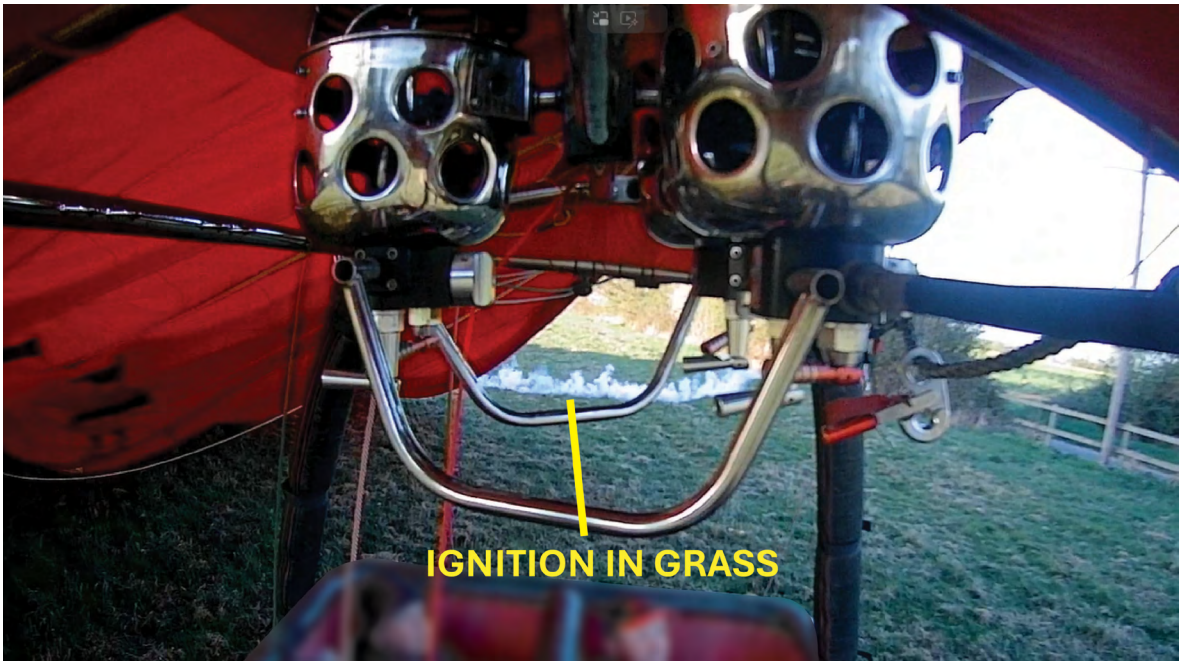

Figure 5
Ignition in grass

Figure 6
Evacuation

The pilot gathered the passengers together near the road and checked everyone was accounted for. He then moved everyone further away in case the fire led to a fuel tank rupture.

Both a passing motorist and the pilot called the emergency services. One passenger (Pax 1) received an electric shock because he was still touching the basket structure when he touched the ground, and another passenger (Pax 2) sustained an ankle injury, both while climbing out of the basket. The fire service extinguished the fire on the balloon and Pax 1 was taken to hospital by ambulance. The scene was made safe by the electricity network provider and the balloon was retrieved.

Pax 1 sustained minor burn injuries, a sprained ankle and suffered chest pains following the event. Pax 2 was diagnosed with a secondary headache from his other injuries.

Aircraft information

The balloon manufacturer's Flight manual contains the emergency procedure *'Contact with electric power lines'* which stated:

> *'Contact with electric power wires is extremely dangerous and can result in serious or fatal injuries. It should be avoided at all costs. If contact with power wires cannot be avoided, initiate a rapid descent so that contact with the wires will be made by the envelope instead of the basket assembly.*
>
> *Shut off all the fuel supplies at the cylinder valves and vent the fuel hoses before contact.*
>
> *If the balloon is caught in the power wires, do not touch any metallic parts. If the basket is not in contact with the ground remain in it, if possible, until the electrical power is shut off.*
>
> *If it is necessary to leave the basket, do not place the body in contact with the ground and any part of the balloon at the same time.*
>
> *Do not attempt to recover the balloon until the electricity authority has been contacted, and has indicated that it is safe to do so.'*

The manual's *'Fire on the ground'* procedure stated:

> *'Shut off the fuel supply at the cylinder valve and send all persons not directly fighting the fire to a safe distance.*
>
> *Put out fire with extinguisher.*
>
> ***WARNING: If the fire is not extinguished immediately, ensure that all remaining persons retreat to a safe distance, as an explosion will occur if the fire continues and causes the cylinders to rupture.***
>
> *If the balloon is inflated the pilot must pull the parachute operating / rip line to prevent the balloon becoming airborne while the passengers exit. The pilot should exit the balloon last with the parachute operating / rip line in hand to ensure that the balloon does not become airborne.'*

Survivability

The operator has safety briefing cards available for passengers. The safety briefing, which is delivered verbally, addresses the issues of evacuation in an emergency.

The injured passengers in this event reported that the safety brief was given and that it was clear and easy to understand. The passengers understood they should remain in the basket until told to leave or evacuate by the pilot.

Organisational information

The operator provides each pilot with a CAA 1:500,000 aeronautical chart. Such charts are not intended for low level navigation, and do not depict low level power lines. The operator's Operations manual states:

> *'The pilot in command must ensure that he carries current topographical maps and aeronautical charts covering the planned route.'*

The operator stated that pilots have access to Ordnance Survey 1:50,000 maps which depict main power lines but not the low-level pylons in the vicinity of Earls Colne. The operator does not provide such maps or have any requirements for the standard of mapping carried by the pilots. The mapping app used by the pilot had an overlay of Sensitive Areas (SA). SAs are published by the British Balloon and Airship Club (BBAC) and cover areas which balloonists should avoid, such as anti-balloon landowners, livestock sensitive areas, and high charges for landing. The SAs have a requested minimum height for overflight to minimise nuisance. The database of SAs from the BBAC can be overlaid on maps via a variety of mapping applications.

Analysis

The pilot made an approach to what he believed to be an appropriate landing area, recognising that a set of power cables ran along the road bordering his chosen field. He successfully landed just beyond those wires. Only when the balloon basket had touched down, did the pilot recognise there was a second set of wires in the field. As the balloon basket dragged along the ground, the envelope broke the wires. The wires contacted parts of the basket structure and fell to the ground.

Consistent with the Flight manual, the pilot informed his passengers they had struck wires and directed them to remain in their landing positions. A fire then broke out, so the pilot ordered the passengers to evacuate the basket. There was insufficient time for the pilot to explain that parts of the basket structure might be electrically live, or that people should not touch the ground and the basket simultaneously. Pax 1, who was touching the basket as he reached the ground, received an electric shock and other injuries. Pax 2 also sustained injuries from the evacuation.

The operator supplied the pilot with a 1:500,000 aeronautical chart. On this chart the flight of the balloon was depicted by a 4 cm line with limited ground detail. The pilot supplied his own 1:50,000 Ordnance Survey maps which offered much greater detail, but not the power lines which were struck.

Conclusion

Just after touchdown the balloon struck a set of low level power cables which the pilot did not see during the approach, and which were not depicted on the maps he was using.

He evacuated the passengers according to the Flight manual advice but did not have time to warn them of the risk of electric shock.