

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Cessna F150K, G-BJOV	
<b>No &amp; Type of Engines:</b>	1 Continental Motors Corp O-200-A piston engine	
<b>Year of Manufacture:</b>	1970 (Serial no: 558)	
<b>Date &amp; Time (UTC):</b>	1 October 2020 at 1615 hrs	
<b>Location:</b>	Near Tiffenden Airfield, Kent	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 2	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Severe damage to nose landing gear. Damage to wings, fuselage, engine and propeller	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	55 years	
<b>Commander's Flying Experience:</b>	1,146 hours (of which 851 were on type) Last 90 days - 28 hours Last 28 days - 6 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

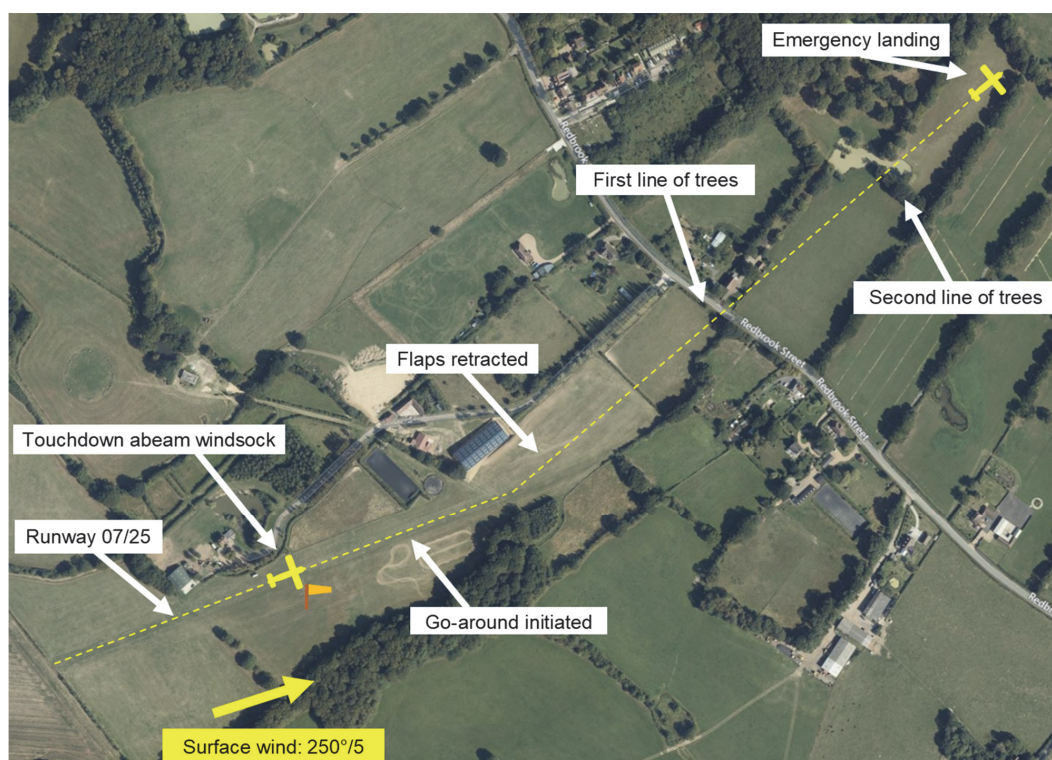
Likely resulting from the combination of a tailwind and an unintentionally steep approach, the aircraft experienced a heavy landing further along the runway than planned. The heavy landing was followed by a high bounce during which the PIC took control and initiated a go-around. Despite the application of full power and a reduction of flap angle to reduce drag, the aircraft struggled to climb above successive tree lines beyond the airfield boundary. When it became apparent that the aircraft would not clear them, the PIC was forced to carry out an emergency landing in a field just short of a third line of trees. The nose gear collapsed after touchdown and the aircraft slid to a halt. Both pilots were able to exit the aircraft unaided and uninjured. The PIC reflected that discontinuing the initial steep approach and going around before touchdown would have been a better option in the circumstances.

## History of the flight

The aircraft was flown from Headcorn Aerodrome to Tiffenden Airfield by two pilots qualified on type. The PIC was in the right seat as non-handling pilot. To take advantage of the uphill slope to reduce the landing roll, G-BJOV was positioned to land on Runway 07 despite a 5 kt tailwind. The PIC reported that it was his normal practice to accept a light tailwind on Runway 07. This was because, when landing into a light headwind on Runway 25, the presence of trees in the undershoot combined with the downhill slope would result in an

estimated 200 m longer landing distance than for Runway 07. On final, the handling pilot judged that he was high and selected full flap (40°) to increase the descent rate.

Likely because of the steep approach coupled with the tailwind, the aircraft landed heavily further along the runway than planned, approximately abeam the windsock (Figure 1). Due to the heavy landing G-BJOV bounced back into the air. With less than half the runway remaining ahead, the PIC took control and initiated a go-around.



**Figure 1**

Overview of accident ground track  
(image courtesy of Ordnance Survey ©2021 TomTom)

The aircraft was not climbing as expected so the PIC asked the second pilot to help by raising the flaps in stages to reduce drag. The PIC then lowered the nose to gain speed but needed to raise it again to clear trees at the airfield boundary. As he did so the stall warning sounded.

Once clear of the boundary trees, the PIC again attempted to accelerate by lowering the nose. While this helped, a further line of trees approximately 100 m beyond the first meant that the pilot had to raise the nose once more. The stall warning sounded again and both pilots felt the landing gear striking branches as they passed the treetops.

The PIC again lowered the nose to accelerate, but as he raised it to clear the next set of trees a wing drop to the left developed. He was able to counter this by lowering the nose and using opposite rudder, but it became apparent that they would not be able to climb over the treeline ahead. The PIC felt he had no option but to carry out an immediate emergency

landing in the field. At touchdown, the nosewheel collapsed and the aircraft slid to a halt at the edge of the field (Figure 2).

Both pilots were able to evacuate the aircraft without assistance and were unhurt in the accident. The PIC reflected that discontinuing the initial steep approach and going-around before touchdown would have been a better option in the circumstances.



**Figure 2**

G-BJOV in the treeline  
(image courtesy of PIC)

### **Airfield information**

Tiffenden is a private unlicensed grass airfield. It has two marked strips, Runway 06/24 and Runway 07/25, which is the longer; Runway 06/24 is rarely used. Both runways slope down towards the west. To avoid buildings beyond the end of the runway, the go-around track from Runway 07 requires a left turn to parallel Runway 06. The Pooley's guide warns pilots that '*rising ground and trees*' beyond the end of Runway 07 pose a hazard for go-arounds.

### **Discussion**

It is likely that the heavy landing and bounce resulted from continuing with a steep approach rather than pre-emptively going around. The upsloping runway would have added to the challenge of judging when and how much to flare the aircraft before touchdown.

As highlighted in the Pooley's guide, an easterly go-around at Tiffenden is complicated by rising ground and trees. As well as contributing to the landing being further along the runway than expected, the tailwind would have increased the aircraft's groundspeed, thus reducing the time available to accelerate and climb above these trees during the early stages of the go-around.

The heavy bounce would have reduced the aircraft's speed, making an already challenging go-around significantly more difficult from a lower energy state. Despite the application of full power, there was insufficient time to establish a sustainable climb before the PIC needed to raise the aircraft's nose to clear the first treeline. As the aircraft approached the stall, drag would have risen markedly, reducing the aircraft's thrust margin and therefore its ability to accelerate.

### **Conclusion**

Landings further along the runway than expected can result from a variety of causes and are an ever present hazard in aviation. When coupled with a challenging go-around owing to obstacles in the aircraft's path, the margin for error is further reduced and additional mitigation, such as an earlier than normal go-around decision point, should be considered. As the PIC reflected, had the steep approach and/or the touchdown being further along the runway than expected triggered a proactive go-around before landing, a successful outcome would have been more likely.