

## ACCIDENT

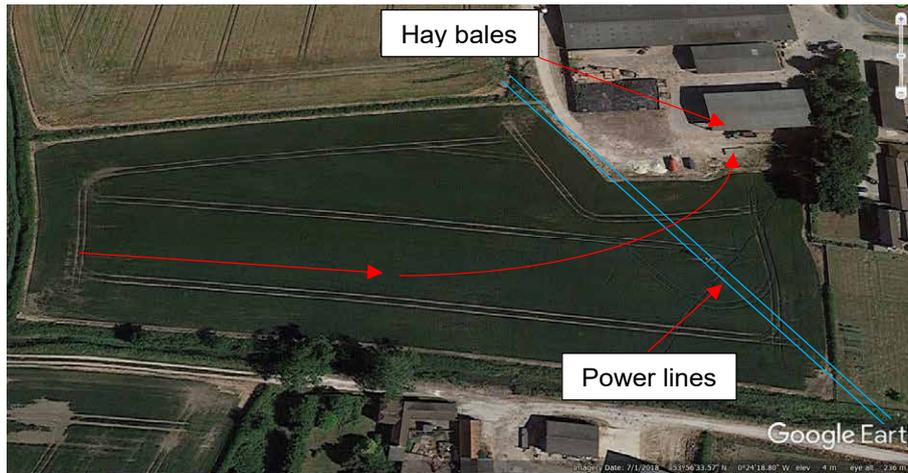
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|--|--|-------------------|
| <b>Aircraft Type and Registration:</b> | Savannah VG, G-CGTV  |                   |
| <b>No &amp; Type of Engines:</b>       | 1 Jabiru 2200 piston engine  |                   |
| <b>Year of Manufacture:</b>            | 2011 (Serial no: BMAA/HB/609)  |                   |
| <b>Date &amp; Time (UTC):</b>          | 25 June 2020 at 2010 hrs   |                   |
| <b>Location:</b>                       | Scurf Dyke Farm, near Driffield, Yorkshire   |                   |
| <b>Type of Flight:</b>                 | Private  |                   |
| <b>Persons on Board:</b>               | Crew - 1   | Passengers - None |
| <b>Injuries:</b>                       | Crew - 1 (Minor)   | Passengers - N/A  |
| <b>Nature of Damage:</b>               | Aircraft destroyed   |                   |
| <b>Commander's Licence:</b>            | National Private Pilot's Licence   |                   |
| <b>Commander's Age:</b>                | 38 years   |                   |
| <b>Commander's Flying Experience:</b>  | 78 hours (of which 78 were on type)<br>Last 90 days - 3 hours<br>Last 28 days - 1 hour |                   |
| <b>Information Source:</b>             | Aircraft Accident Report Form submitted by the pilot                                   |                   |

## Synopsis

During takeoff the aircraft struck a bump causing the pilot's knee to touch the flap lever, which then moved from the 20° to the 40° position. Shortly after takeoff the pilot felt the left wing start to stall, and the aircraft subsequently struck a stack of hay bales.

## History of the flight

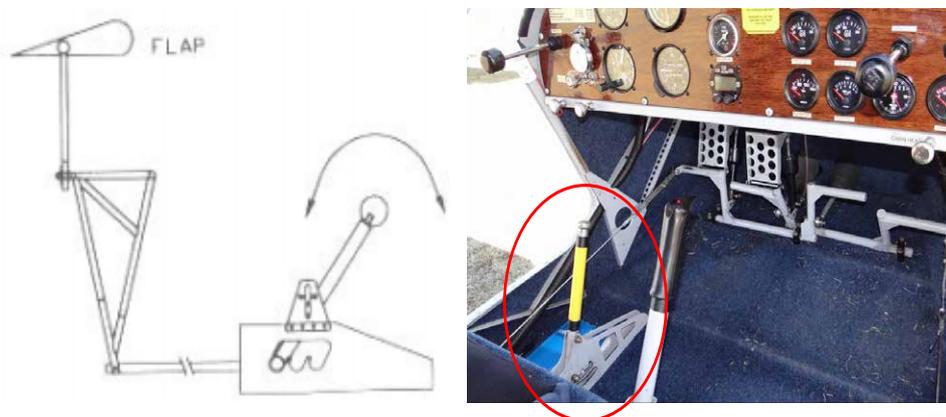
The pilot had prepared for a local evening flight from his home farm strip to Beverley Airfield and after completing the pre-flight checks, he lined the aircraft up on an easterly heading to take off into a light wind. The farm strip was approximately 220 m long, dry, cut-grass pasture with power lines at the eastern end and farm buildings to the north (Figure 1). With the flaps set to the normal takeoff configuration of 20°, he commenced the takeoff roll. Approximately two thirds along the ground roll, the pilot reported that he felt one of the main wheels strike a bump which caused his knee to touch the flap lever. The flaps then deployed to full flaps of 40°. The aircraft started to climb at very low speed and was close to stalling. To avoid a stall, the pilot lowered the nose, but was conscious that he needed to maintain enough height to avoid the power lines at the end of the strip. Having cleared the power lines he reported that he felt the left wing starting to stall and so applied left rudder and lowered the nose further. The aircraft veered to the left and struck a stack of hay bales at approximately 10 m above the ground. It then struck the ground tail first before coming to rest. The pilot was able to turn off the fuel before exiting the aircraft with only minor injuries.



**Figure 1**  
Accident site

### Flap system

The Savannah VG is fitted with full wingspan trailing edge flaperons with 0°, 20° or 40° settings. They are operated by a lever on the cockpit floor between the legs of the left seat pilot (Figure 2). The lever has a locking button on the top which engages with a detent for each setting. The Pilot's Operating Handbook (POH) states that with the standard take off procedure with flaps 20° the aircraft lifts off between 26 to 30 kt and the Take Off Distance Required (TODR) to clear a 50 ft obstacle is 228 m. The pilot had practiced a full-flap take off once before with an instructor and in the POH is noted: "*The short take off procedure [Flaps 40°] is a very delicate maneuver [sic]. It is suggested to practice it with an instructor before attempting it.*" The stall speed is 26 kt with flaps fully extended and 30 kt with flaps retracted. The pilot stated that in flight when extending the flaps, it is necessary to overcome the aerodynamic loads, however on ground, the flaps will fully extend under their own weight.



**Figure 2**  
Flap system – lever and linkage

## Discussion

During the takeoff ground roll with the aircraft approaching flying speed, the pilot stated that the aircraft struck a bump and he inadvertently moved the flap lever. No defect was identified in the flap mechanism and due to the low aerodynamic loads, they deployed to flaps 40°. This would have created a sudden increase in lift and drag and reduced the stall speed. The manufacturer has highlighted in the POH that taking off with flaps 40° should be handled delicately and that the lift off and stall speeds are very similar. The pilot had practiced rejected takeoff manoeuvres to the right and straight ahead, but not to the left. The sensation of a left-wing stall resulted in the pilot turning to the left and he realised he would strike the hay bales or the farm buildings (Figure 3).

The POH states that 228 m is required to clear a 50 ft obstacle. The strip length was approximately 220 m and the height of the power lines was approximately 20 ft. However, in this case, due to the orientation of the power lines, the Take Off Run Available (TORA) decreased as the aircraft turned to the left after takeoff. The CAA "SafetySense leaflet 12 Strip Flying" highlights the hazards of flying from private strips.



**Figure 3**

G-CGTV and accident site