

## ACCIDENT

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|--|--|------------------------|
| <b>Aircraft Type and Registration:</b> | DH82A Tiger Moth, G-ANRM   |                        |
| <b>No &amp; Type of Engines:</b>       | 1 De Havilland Gipsy Major 1H piston engine  |                        |
| <b>Year of Manufacture:</b>            | 1943 (Serial no: 85861)  |                        |
| <b>Date &amp; Time (UTC):</b>          | 30 June 2018 at 1725 hrs   |                        |
| <b>Location:</b>                       | Sywell Aerodrome, Northamptonshire   |                        |
| <b>Type of Flight:</b>                 | Training   |                        |
| <b>Persons on Board:</b>               | Crew - 1   | Passengers - 1         |
| <b>Injuries:</b>                       | Crew - 1 (Minor)   | Passengers - 1 (Minor) |
| <b>Nature of Damage:</b>               | Wings, propeller, forward fuselage and rudder damaged  |                        |
| <b>Commander's Licence:</b>            | Commercial Pilot's Licence   |                        |
| <b>Commander's Age:</b>                | 58 years   |                        |
| <b>Commander's Flying Experience:</b>  | 5,230 hours (of which 856 were on type)<br>Last 90 days - 119 hours<br>Last 28 days - 63 hours |                        |
| <b>Information Source:</b>             | Aircraft Accident Report Form submitted by the pilot and enquiries made by the AAIB            |                        |

## Synopsis

During the flare the aircraft was caught by a gust of wind. This caused a roll to the left that the pilot could not correct. The left wing struck the ground and the aircraft nosed over. The pilot stated he was unable to correct the roll due to poor aileron authority at low speed.

## History of the flight

The aircraft was flown on behalf of an operator that provides vintage flying experiences. The pilot flew the aircraft to Sywell from its home base at Duxford on the afternoon before the incident. He then completed one short air experience flight. Both previous landings were on the grass Runway 03R and were uneventful.

On the third flight, whilst on short final for Runway 03R, the pilot received information from Sywell that the wind was 040° at 15 kt. The approach proceeded normally. During the approach the pilot looked at the windsock at the far end of the runway. He concluded the wind was approximately 10° to the right of the runway heading and decided to use a 3-point landing technique. This was his preferred technique for landing when there was no significant crosswind. The pilot reported that during the flare a sudden gust caused the aircraft to roll to left. He attempted to correct the roll and initiate a go-around but the left wing struck the ground. The aircraft rotated to the left and overturned. It contacted the ground with the nose and right-wing, and came to rest inverted and facing opposite to the

landing direction (Figure 1). Both occupants were restrained by their 4-point harnesses and suffered only minor injuries. They were helped to evacuate by the aerodrome rescue and firefighting service.



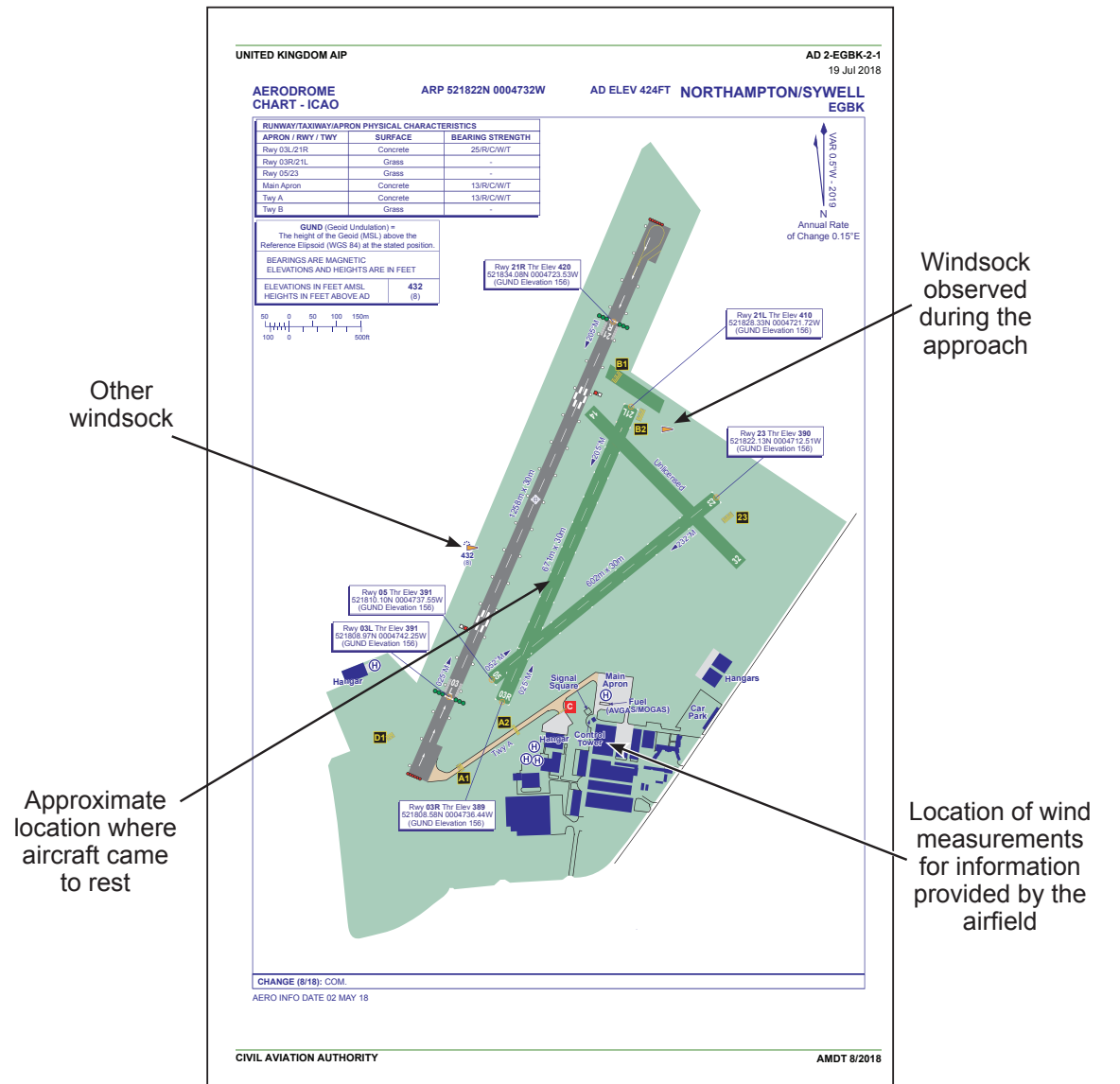
**Figure 1**

G-ANRM at the accident site (photograph used with permission)

### **The wind and windsock indications**

Over the course of the evening, the wind had varied between 030° to 050° at 12 to 18 kt. The maximum gust recorded was 20 kt. Around the time of the incident, Sywell Information briefly observed an anemometer reading of 070° at 18 kt. They reported that this reading differed from the direction indicated by the windsock nearest to the incident. The chief pilot for the aircraft operator investigated the accident and visited Sywell. During the visit, he found that the indications provided by the two windsocks differed from each other and from the wind information provided by Sywell (Figure 2).

The original pilot's notes for the aircraft do not include any wind limitations. The operator's guidelines recommend not to fly the Tiger Moth in crosswinds over 15 kt.



**Figure 2**

Aerodrome chart (amended and used with permission from NATS aeronautical information service)

**The pilot’s comments**

The pilot stated the gust during the flare was “sudden and unpredictable” and that the Tiger Moth is susceptible to gusts due to its low wing loading. He concluded that he was unable to prevent the wing contacting the ground due to poor aileron authority at low speeds.

**The chief pilot’s comments**

The chief pilot stated that the wind had been within the operator’s recommended limits for Runway 03R. However, pilots had received a brief to use Runway 03R or Runway 05 depending on approach conditions. The chief pilot commented that using Runway 05 may have been preferable because of the tendency for gusts to veer and strengthen, especially in the evening.