



LIMITED ACCIDENT INVESTIGATION REPORT
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Reference Number		CA18/2/3/10143					
Classification	Accident	Date	26 March 2022	Time	1400Z		
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Groutville Airfield, KwaZulu-Natal Province		Place of Intended Landing	Groutville Airfield, KwaZulu-Natal Province			
Place of Occurrence	About 300 metres from Umvoti River Mouth, KwaZulu-Natal Province						
GPS Co-ordinates	Latitude	29° 23' 36.38" S	Longitude	31° 20' 10.65" E	Elevation	16 ft	
Aircraft Information							
Registration	ZU-FCN						
Make/Model	Solo Wings CC, Windlass Aquilla Trike (Serial Number: WA1189)						
Damage to Trike	Substantial		Total Aircraft Hours	176 hours			
Pilot-in-command							
Licence Valid	Yes		Gender	Male	Age	48	
Licence Type	National Pilot Licence (NPL)						
Total Hours on Type	1 300 hours		Total Flying Hours	1 300 hours			
People On-board	1 + 1	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On 26 March 2022, a pilot and a passenger on-board a weight shift-controlled Windlass Aquilla Trike with registration ZU-FCN took off on a pleasure flight from Groutville Airfield, KwaZulu-Natal (KZN) province, with the intention to land back at the same airfield. The trike was operated under the provisions of Part 94 of the Civil Aviation Regulations 2011 as amended.</p> <p>The pilot reported that before departure, he conducted a pre-flight inspection, and no anomalies were found. The trike took off at 1340Z with an estimated flight time of 1 hour 30 minutes. According to the pilot, the climb and cruise phases of the flight were uneventful, and engine performance indications showed no abnormalities.</p> <p>Approximately 20 minutes into the flight at a cruise altitude of 1000 feet (ft) above ground level (AGL), the engine started spluttering and, eventually, stopped. After numerous attempts to restart the engine, the pilot identified a suitable open space next to the beach on which to force-land the trike.</p> <p>The pilot glided the trike and landed on soft, wet sand, approximately 300 metres (m) from Umvoti River Mouth in KwaZulu-Natal province. The nose wheel sunk into the sand during the landing roll and caused the trike to roll over before it came to rest in an inverted attitude.</p> <p>According to the owner of the trike, it was substantially damaged; however, the occupants did not sustain injuries during the accident sequence.</p>							

What was found:

- The weather information below was obtained from the Meteorological Aerodrome Report (METAR) that was issued by the South African Weather Service (SAWS) which was recorded on 26 March 2022 at 1400Z at King Shaka International Aerodrome (FALE), located 17 nautical miles (NM) from the accident site.

METAR FALE 261400Z 20018KT 1000 R24/P2000D R06/1000VP2000U RA SCT006 BKN014 BKN024 20/19 Q1014 TEMPO 3000=

The carburettor icing chart showed that the weather conditions were conducive for moderate icing at cruise power or serious icing at descent power (refer to the black solid and dotted lines, as well as the round spot on the graph below).

Temperature	20 °C
Dewpoint	19 °C
Dewpoint depression	1 °C

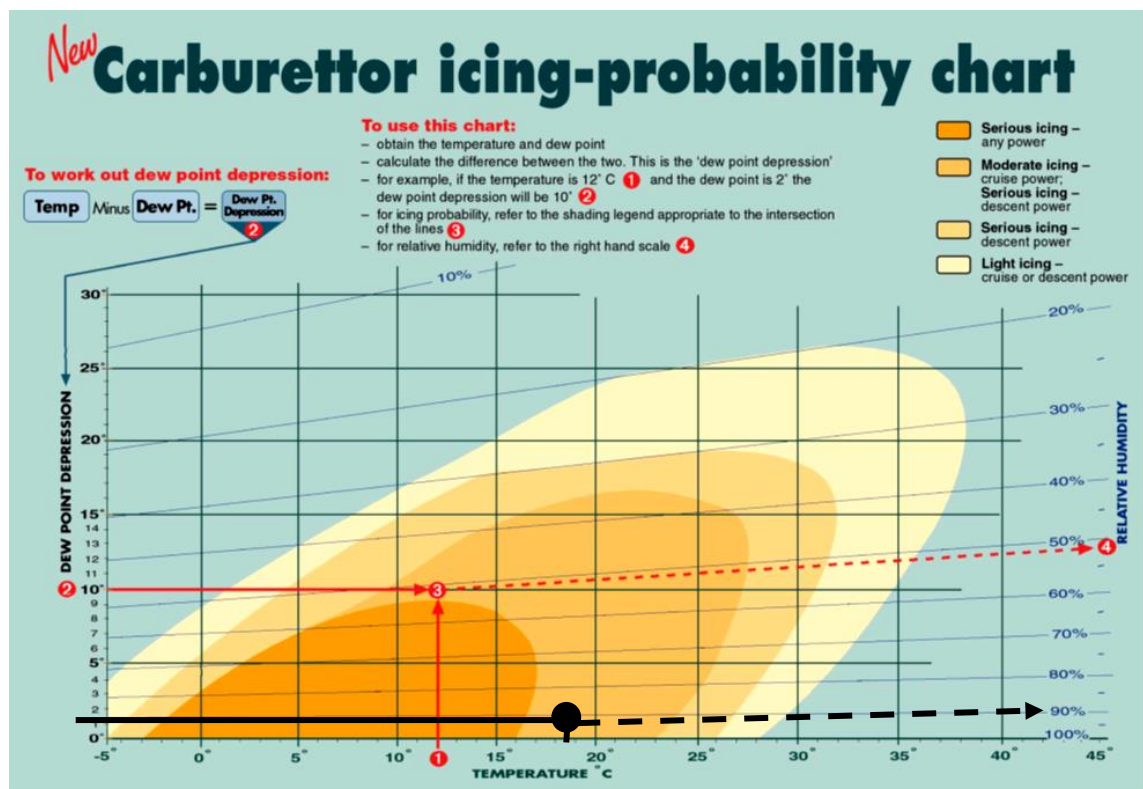


Figure 1: The Carburettor Icing-probability Chart.

- The pilot was reissued a National Pilot Licence (NPL) on 18 November 2021 with an expiry date of 28 September 2023. The microlight type was endorsed on the pilot’s licence.
- The pilot’s Class 4 medical certificate was issued on 2 November 2021 with an expiry date of 2 November 2022 with the restriction to wear suitable corrective lenses.
- The trike’s Authority to Fly (ATF) certificate, which was issued on 11 May 2021 with an expiry date of 31 May 2022, was valid at the time of the accident flight.

Probable cause:

Engine stoppage whilst in cruise was due to carburettor icing, which led to an unsuccessful forced landing on an open field next to the beach.

<p>Contributing factors: The pilot did not obtain weather information (temperature and dew point) before undertaking the flight to determine whether the conditions were conducive for carburettor icing.</p>
<p>Safety Action</p> <p>None.</p>
<p>Safety Message</p> <p>Pilots flying carburettor engines should always check the temperature and dew point before take-off to determine whether the conditions are conducive for carburettor icing. Pilots are reminded that serious carburettor icing could occur in ambient temperatures as high as 32°C or in relatively humid conditions as low as 35 percent at cruise power.</p>
<p>Purpose of the Investigation</p> <p><i>In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and not to apportion blame or liability.</i></p>
<p>About this Report</p> <p><i>All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.</i></p>
<p>Disclaimer</p> <p><i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i></p>

This report is issued by:

**Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**