

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Nipper T.66 RA45 Series 3, G-AXLI	
<b>No &amp; Type of Engines:</b>	1 Ardem MK.10 piston engine	
<b>Year of Manufacture:</b>	1969 (Serial no: S131)	
<b>Date &amp; Time (UTC):</b>	11 January 2019 at 1315 hrs	
<b>Location:</b>	Approximately 3 miles east of Norton St Philip, Somerset	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Extensive	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	52 years	
<b>Commander's Flying Experience:</b>	868 hours (of which 16 were on type) Last 90 days - 23 hours Last 28 days - 6 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

The aircraft suffered a loss of engine power and overturned during a subsequent forced-landing attempt.

## History of the flight

The pilot reported that he took off from Brown Shutters Farm and carried out general handling to the south of the field. Carburettor heat was applied a number of times. He then headed back towards the field from a location about 2 miles to the south. During the descent from just below 4,000 ft, with the engine running at about 1,500 rpm, the pilot began to open the throttle to keep the engine warm. Instead, it came to a rapid stop. Subsequently, whilst gliding at about 60 mph, the propeller started slowly rotating. The pilot then pitched down to increase airspeed, in the hope that the engine power would be restored. Although he reached approximately 120 mph, the engine did not respond. The pilot then reduced speed to continue a glide towards Brown Shutters Farm, making the second of two transmissions on the safety comm frequency. He again received no response but could see that the circuit was clear and continued to prepare for a straight-in approach on the into-wind Runway 33.

As he crossed some trees, a high sink rate developed, and the pilot realised he was in danger of striking some power lines. Consequently, he performed a quick S-turn and

sideslip to land in a field immediately below. The softness of the ground caused the aircraft to flip over immediately and become completely inverted.

The pilot was able to exit through a restricted area between the canopy opening and the ground; the canopy having shattered during the ground impact.

### **Meteorology**

The pilot reported the weather as: wind from the north-west at 8 mph, gusting 17 mph; cloud broken at 3,500 ft with 75% cover, sunny, visibility 9999, temperature 8°C, dewpoint 5°C. This information was obtained from the 'Dark Sky' weather App.

### **Discussion**

The temperature and humidity figures quoted by the pilot are consistent with the conditions which, according to generally accepted carburettor icing probability charts, are likely to cause carburettor icing at cruise power. The charts assume the use of typical aeronautical carburettor designs with the normal (cold) air supply selected. There is no reason to suppose that the formation of icing in the types of carburettors used on the automotive-derived Ardem engine type in this aircraft would occur differently. Although the temperature figures quoted are presumed to be fairly local ground level observations, the small differences likely to be experienced during the flight would not have significantly changed the probability of carburettor icing occurring.

### **Conclusion**

The pilot believes that carburettor icing led to the engine ceasing to produce power and his attempt to restore power sacrificed too much height to enable him to reach Brown Shutters Farm in the glide.