AAIB Bulletin No: 6/2005

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Category: 1.3

Aircraft Type and Registration:	Socata TB9 Tampico, G-BMZE	
No & Type of Engines:	1 Lycoming O-320-D2A piston engine	
Year of Manufacture:	1986	
Date & Time (UTC):	6 March 2005 at 1445 hrs	
Location:	Eddsfield Airfield, Yorkshire	
Type of Flight:	Public Transport (Passenger)	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to propeller, nose landing gear, right wing and fuselage distortion	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	37 years	
Commander's Flying Experience:	120 hours (of which 53 were on type) Last 90 days - 15 hours Last 28 days - 3 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The owner/pilot of the aircraft had completed a pre-flight inspection of the aircraft in preparation for his departure from Eddsfield, an 800 metre unlicensed grass airfield. He had performed takeoff calculations which took into account the runway surface conditions and these confirmed that the available field length was sufficient for the aircraft operating weight and local conditions. The local air temperature and dew point meant that the weather conditions were likely to result in the formation of carburettor ice, and this was supported by the indication of the carburettor air temperature indicator in the cockpit. Therefore, after taxiing towards the runway, the pilot completed prolonged engine runs with carburettor air heat selected to ensure that the carburettor was free from ice build up. The aircraft was lined up on Runway 27, and the takeoff commenced normally. However, as the aircraft approached 60 kt, the pilot felt it pull to the right and the indicated speed decreased to 50 kt. Left rudder was applied to correct this, drift but the aircraft failed to accelerate beyond 55 kt. As the aircraft was not accelerating normally the pilot abandoned the takeoff but, due to the runway being wet, he elected not to apply the wheel brakes. In an attempt to avoid passing through a hedge at the end of the runway and onto a road, the pilot applied full left

nose wheel steering, which resulted in the collapse of the nose landing gear. The aircraft came to rest aligned approximately south to north, with its right wing through the hedge. The passenger vacated the aircraft via the right door and, although the pilot initially attempted to leave the aircraft through the left door, due to fuselage distortion, this could not be opened and so he also escaped via the right door. Nether the pilot or the passenger sustained any injuries during the incident. The aircraft suffered damage to its right wing tip, propeller, engine cowlings, nose landing gear and distortion of the fuselage

Examination of the aircraft and the runway some days after the event showed that the nose wheel was unable to rotate due to a significant build up of mud and grass in it wheel spat. A smaller quantity of mud and grass was found in the right wheel spat. Examination of the runway surface showed clearly visible tracks made by the aircraft's wheels for the last third of its attempted take-off run. These tracks showed evidence of intermittent skidding of both the right and nose wheels.

In the days immediately before this accident, it had been raining. The condition of the runway surface during the above examination indicated that it was likely, at the time of the accident, that it had been sufficiently soft to allow mud and grass to become embedded up in the wheel spats and restrict wheel rotation. This appeared to have resulted in un-commanded braking and intermittent lock-up of both the nose and right main wheels, and this most likely prevented the aircraft from accelerating normally.