

ACCIDENT

Aircraft Type and Registration:	Piper PA-28-161 Cherokee Warrior II, G-BNOE	
No & Type of Engines:	1 Lycoming O-320-D3G piston engine	
Year of Manufacture:	1987	
Date & Time (UTC):	28 January 2011 at 1415 hrs	
Location:	Walton Wood Airfield, near Pontefract, West Yorkshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to nosewheel, propeller, lower engine cowling and wing tips	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	53 years	
Commander's Flying Experience:	118 hours (all on type) Last 90 days - 2 hours Last 28 days - 1 hour	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

A first attempt at takeoff was aborted when it became apparent to the pilot that the aircraft was not achieving flying speed. The aircraft came to a halt at the end of the runway, but assistance was required to recover it to the taxiway. A second attempt was made on the reciprocal runway after the pilot had off-loaded his passenger. The flaps were set at 25° on this occasion; however the aircraft once again failed to achieve flying speed and the takeoff was aborted. The pilot was unable to halt the aircraft before the end of the runway, with the result that it came to rest in a shallow ditch in a field beyond. It is possible that the soft nature of the ground was a significant factor in both takeoff attempts.

Circumstances of the accident

The pilot's intention was to conduct a flight to Sherburn in Elmet from Walton Wood Airfield. He was familiar with Walton Wood and had flown in there earlier in the day, landing without any problems. After completing the power and pre-takeoff checks, the aircraft lined up on Runway 06. The pilot applied full power, although approximately 7 seconds elapsed before the aircraft started to move; the pilot attributed this to a combination of a slight incline and the soft nature of the ground. After covering around 500 m and having failed to reach liftoff speed, the pilot aborted the takeoff, with the result that the aircraft came to rest at the end of the runway, with the nosewheel resting in a shallow furrow. The pilot called up Walton Wood

radio, advised of his situation and requested assistance. The on-airfield maintenance organisation responded to this request and pushed the aircraft back onto the taxiway. The engineers then checked for any visible damage and also for any evidence of the brakes having been partially seized on; both checks were negative.

The pilot subsequently contacted the flying club Sherburn in Elmet and asked for advice on how best to proceed, including taking off on Runway 24. The advice he received included allowing adequate remaining runway in the event that the takeoff needed to be aborted once again.

Prior to the next attempt, the pilot off-loaded his passenger in order to reduce the aircraft weight. He also decided to follow a suggestion from the personnel who had helped recover the aircraft, that he use 10° flaps for the initial takeoff roll, with 25° to be applied subsequently.

The pilot did not have immediate access to the Pilot's Operating Handbook (POH) for this aircraft. However, Section 4 of the POH, 'NORMAL PROCEDURES, SOFT FIELD, NO OBSTACLE' states that flaps should be set at 25°, together with the advice to:

'Accelerate and lift off nose gear as soon as possible. Lift off at lowest possible airspeed. Accelerate just above ground to best rate of climb speed, 79 KIAS. Flaps; slowly retract.'

For 'NORMAL PROCEDURES, SOFT FIELD, OBSTACLE CLEARANCE' the additional advice is to:

'Accelerate just above ground to 52 KIAS to climb past obstacle height.'

After completing the pre-takeoff checks the pilot commenced his takeoff on Runway 24, noting that the engine was developing 2,300 rpm. He selected 25° flaps after covering 250-300 m; however, the indicated airspeed failed to increase above 43 kt, and, after approximately 500 m, the pilot decided to abort the takeoff and applied the brakes. It became apparent that the aircraft would not come to a halt before the end of the runway, so the pilot turned the aircraft to the right in an attempt to extend the distance available. The aircraft then entered a shallow ditch and slewed further to the right before coming to rest in a field beyond the end of the runway. The pilot was not injured, although some damage had occurred to the aircraft.

The pilot subsequently commented that he did not act on all the advice given to him in that he ought to have planned an abort point and abandoned the takeoff earlier.

The airfield guide used by the pilot noted that Walton Wood can be closed in winter, due to water-logging. Whilst the airfield was not closed in this case, it is possible, in the absence of any evidence of a loss of engine power, that the soft nature of the runway surface was a significant factor in preventing acceleration of the aircraft.