

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Cessna F172M Skyhawk, G-TRAX
<b>No &amp; Type of Engines:</b>	1 Thielert TAE 125-02-99 piston engine
<b>Year of Manufacture:</b>	1974 (Serial no: 1081)
<b>Date &amp; Time (UTC):</b>	5 June 2014 at 11:35 hrs
<b>Location:</b>	Derby Airfield
<b>Type of Flight:</b>	Aerial Work
<b>Persons on Board:</b>	Crew - 1                      Passengers - None
<b>Injuries:</b>	Crew - None                      Passengers - N/A
<b>Nature of Damage:</b>	Damage to both wings, nose structure, propeller and nose landing gear. Power lines damaged
<b>Commander's Licence:</b>	Commercial Pilot's Licence
<b>Commander's Age:</b>	30 years
<b>Commander's Flying Experience:</b>	915 hours (of which 583 were on type) Last 90 days - 108 hours Last 28 days - 54 hours
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot

## Synopsis

The aircraft struck power cables which ran across the approach path for Runway 28. The pilot reported a strong headwind and believed the aircraft had encountered wind shear which caused an uncontrollable descent into contact with the cables. The aircraft crashed on the runway, before the displaced threshold, still entangled with the wires.

## History of the flight

The aircraft was landing at Derby after a flight from Glatton Airfield near Peterborough when the accident occurred. The pilot joined the visual circuit at Derby via the downwind position for Runway 28, while broadcasting his intentions on the Derby Air/Ground frequency. The pilot flew a normal, 60 kt full flap approach into a 15 to 20 kt headwind. He reported that he encountered wind shear on short finals, which caused the aircraft to sink rapidly. He was unable to counter the sink before the aircraft struck power lines that ran across the final approach path. The cables snapped but remained entangled in the propeller, causing the aircraft to yaw to the left before it struck the ground short of the runway threshold. The impact was in a nose-low, right-wing-low attitude, with the cables still entangled with the propeller and aircraft structure.

The pilot, who was uninjured, vacated the aircraft unaided through the right door as the airfield RFFS arrived on scene.

## Derby Airfield

The airfield, which is 6 nm south-west of Derby, has three grass runways, of which 10/28 is the shortest. It is 453 m long overall, but with significantly displaced thresholds at each end. The Landing Distance Available for Runway 28 is 261 m, the threshold being displaced by 144 m. The threshold elevation for Runway 28 is 274 ft.

The UK Aeronautical Information Publication included the information that '*telegraph wire/poles*' (elevation 200 ft) crossed the Runway 28 approach at a distance of 475 m from the beginning of Runway 10. This is equivalent to about 30 m from the beginning of Runway 28 and 195 m from the displaced Runway 28 threshold. One commercial flight guide issued the caution '*Power cables 30' aal on approach to Rwy 28*'.

## Weather information

Before flight, the pilot obtained weather information for East Midlands Airport, about 10 nm to the east of Derby Airfield. The forecast was for a surface wind of 16 kt from 260°, with good visibility and scattered cloud. There was a 30% probability between 1200 hrs and 1600 hrs of winds temporarily increasing to 19 kt and gusting to 29 kt, after which the wind strengths were forecast to abate.

At 1120 hrs on the day of the accident, East Midlands reported a surface wind of 10 kt from 280°, and at 1150 hrs a wind of 11 kt from 290°. The flying school based at Derby reported that the wind, while noticeable, did not restrict normal flying training taking place on the day.