

INCIDENT

Aircraft Type and Registration:	Piper PA-28-161 Cherokee Warrior II, G-BOVK	
No & Type of Engines:	1 Lycoming O-320-D3G piston engine	
Year of Manufacture:	1985 (Serial no: 28-8516061)	
Date & Time (UTC):	25 May 2013 at 1849 hrs	
Location:	Pudsey, West Yorkshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 3
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Dents in the leading edges of both wings	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	35 years	
Commander's Flying Experience:	93 hours (of which 23 were on type) Last 90 days - 7 hours Last 28 days - 6 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and AAIB enquiries.	

Synopsis

Shortly after the pilot had turned the aircraft on to base leg on the approach to Leeds Bradford Airport (LBA) at approximately 1,000 ft agl, the engine hesitated, lost power and stopped. The pilot selected a suitable landing site, configured the aircraft for a glide and carried out an engine-off landing in a field approximately 4 miles south of LBA. The aircraft sustained damage to the left and right wing leading edges caused by a set of livestock electric fence posts positioned across the field. The pilot and passengers were uninjured and vacated the aircraft. The engine stoppage was caused by the right fuel tank running dry.

History of the flight

The pilot took off from LBA to conduct a pleasure flight with three passengers on a route which took in the Lake District and Blackpool, to return to LBA. On return the pilot was cleared to re-enter LBA controlled airspace and position for base leg on Runway 32. On turning to enter the base leg there was a sudden engine power loss. This was followed by a splutter or hesitation, run down to idle and stop. The pilot considered there to be little time for diagnosis so, mindful of his height and position over a built-up area, he decided to glide clear and select a suitable open field to make a forced landing. After a MAYDAY call the pilot carried out a successful landing in the selected field. As the aircraft travelled across the field it passed through livestock electric fences and

at least two fence posts impacted the leading edges of the main plane, damaging the skin surfaces. After the aircraft came to rest the pilot and passengers vacated the aircraft. There were no injuries sustained during the incident.

Aircraft fuel system

The Piper PA-28-161 fuel system consists of left and right wing tanks feeding an electric pump and an engine-driven pump to supply the carburettor. The pilot has manual control of the fuel supplied from the tanks via a three-position fuel selector valve. The fuel contents indication gauges are situated on the left side of the instrument panel and to the right of the pilot's control yoke. The fuel selector valve control is situated on the cockpit left side panel forward of the pilot's seat. When the control is pointing to the rear of the aircraft fuel is shut off. Rotating the control clockwise to point upwards selects the left tank and further clockwise to point forwards, to the front of the aircraft, selects the right tank.

The contents of each tank were checked during the aircraft recovery. The left tank was found to contain 15 gal imp. The right tank was found to be empty. There was no evidence of fuel leakage.

Pilot's comments and analysis

The pilot volunteered an analysis of the sequence of events leading to the forced landing in a full and frank account.

On this occasion he was taking the opportunity to practice navigation using a navaid, a tablet device, in preparation for a long-distance navigation flight to be taken at a later date as part of his CPL training. He prepared for the flight using a chart and the navaid. He was in the habit of marking his chart to indicate his planned fuel tank changeover point, which usually coincided with a turn or waypoint. He put the chart aside in the cockpit and concentrated on his navaid, which he had mounted on a proprietary bracket on the control yoke.

His flight was uneventful, although he modified one of his turning points due to the presence of isolated low cloud which, by chance, coincided with his planned turn and tank switchover point. He had been reminding himself of the need to switch fuel tanks but the slight turn change caused it to slip his mind. In addition to this he considered that the position of his navaid obscured his view of the right tank contents gauge, enough for its depleting contents not to catch his attention during his regular instrument scans. His position over a built-up area and his altitude meant that he felt it prudent not to attempt a tank switchover and engine restart, so he concentrated on a controlled glide to an engine-off landing. As the incident unfolded he realised the cause of the engine shutdown was fuel starvation and that the right fuel tank was empty.