

ACCIDENT

Aircraft Type and Registration:	PA32-301FT, N116KY	
No & Type of Engines:	1 Lycoming 10-540 SER piston engine	
Year of Manufacture:	2004	
Date & Time (UTC):	1 July 2011 at 0800 hrs	
Location:	Gatwick Aviation Museum, Vallance By-Ways, Gatwick	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 2
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Damage to left flap, right wing, propeller, engine and cowling	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	34 years	
Commander's Flying Experience:	1,156 hours (of which 19 were on type) Last 90 days - 102 hours Last 28 days - 38 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The aircraft landed at Vallance By-Ways airstrip, failed to stop before the end of the runway, and collided with a truck and another aircraft parked as a museum exhibit.

History of the flight

The aircraft was on a private flight from Full Sutton Airfield, York to Vallance By-Ways airstrip, near Gatwick. The pilot contacted Gatwick Tower whose ATCO cleared him to enter the Gatwick zone for landing at Vallance By-Ways. The ATCO also gave the pilot headings to assist him in finding the strip. After three orbits, the pilot located the strip and commenced an approach in a westerly direction. The approach appeared to the pilot to be normal and the aircraft passed close

to the tops of the trees on the approach. Shortly after touchdown, the pilot realised that the aircraft would not stop before the end of the strip and attempted to steer the aircraft left to avoid an Avro Shackleton parked at the end of the strip as a museum exhibit. The aircraft yawed to the left but skidded. Its right wing hit a truck, severing the wingtip, and the aircraft spun to the right and came to rest with its nose under the engine of a second Shackleton. The pilot shut down the aircraft and the occupants vacated without injury.

Airstrip information

Vallance By-Ways is a grass strip 600 m north of, and broadly parallel to, the main runway at Gatwick and

is part of an aviation museum. The strip is 465 m long with a row of trees at the eastern end, the tallest of which is 55 ft high. Several aircraft, including two Shackletons, are parked at the western end of the strip. The museum website showed an extract from a guidebook that contained details of the strip and shows the presence of trees 50 ft tall at the western end of the strip. However, the guidebook stated incorrectly that the strip is 553 m long.

Analysis

The Pilots Operating Handbook (POH) indicated an unfactored landing distance required (LDR), of 527 m, less than the published strip length of 553 m but greater than the actual strip length of 465 m. Aeronautical Information Circular (AIC) 127/2006 – *‘Take-off, Climb and Landing Performance of Light Aeroplanes’* and Safety Sense Leaflet 7 – *‘Aeroplane Performance’*, published by the CAA, recommend applying a safety factor of 1.43 to all landing distances and applying an additional safety factor of 1.15 for landings on dry grass. With these factors applied the LDR would have been 867 m, greater than both the published and actual strip length.

The LDR calculated using the POH assumes that the aircraft crosses the start of the landing strip at 50 ft aal. This was not possible when landing on the westerly runway due to the tall trees on the approach. Crossing the end of the strip higher than 50 ft would have increased the LDR.

Safety action taken

The museum has amended its website to reflect the actual strip length.

Conclusion

The pilot landed the aircraft on a strip that was shorter than both the published length and the unfactored LDR. Although the published strip length was greater than the LDR obtained from the POH, it was less than the LDR with recommended safety factors applied.