

## ACCIDENT

<b>Aircraft Type and Registration:</b>	DA40D Diamond Star, G-JKMG	
<b>No &amp; Type of Engines:</b>	1 Thielert TAE 125-01 piston engine	
<b>Year of Manufacture:</b>	2006	
<b>Date &amp; Time (UTC):</b>	8 August 2007 at 1745 hrs	
<b>Location:</b>	Chichester Goodwood Airfield, West Sussex	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Rear door detached from aircraft, horizontal stabiliser damaged	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	56 years	
<b>Commander's Flying Experience:</b>	2,318 hours (of which 302 were on type) Last 90 days - 75 hours Last 28 days - 22 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

During a sales demonstration flight, the rear passenger door detached from the aircraft and struck the horizontal stabiliser.

## History of the flight

G-JKMG was being used to perform a sales demonstration flight. Prior to the flight both the front canopy and rear clamshell passenger door had been opened and closed numerous times. During the taxi out the front canopy was latched open to allow additional ventilation. This generated a red DOOR OPEN warning message on the Garmin G1000 avionics panel. Before takeoff the canopy was closed but neither pilot noticed that the red DOOR OPEN warning message did not extinguish. Once

airborne both pilots realised that the door warning was still illuminated and the commander recognised that this was probably due to the rear passenger door being unlatched. At approximately 700 ft, as the commander reached for the door in an attempt to close it, the door fully opened. The hinges retaining the door failed and the door detached from the airframe. It passed over the fuselage and struck the right horizontal stabiliser causing significant damage. G-JKMG continued its circuit and landed without further incident. The door was later recovered from a field.

**Door**

The rear passenger door of the DA40 is a hinged, upward opening door of composite material. It is secured to the aircraft by two hinges mounted on the fuselage top and supported in normal operation by a gas spring strut at the rear of the door. In the closed position it is secured by two locking bolts projecting fore and aft. The forward locking bolt contacts a microswitch to extinguish the DOOR OPEN warning.

**Pilot Assessment**

The commander acknowledged that he did not secure the rear passenger door or identify the warning message prior to departure.