

ACCIDENT

Aircraft Type and Registration:	Cessna 550 Citation Bravo, G-CGEI	
No & Type of Engines:	2 Pratt & Whitney Canada PW530A turbofan engines	
Year of Manufacture:	2000	
Date & Time (UTC):	30 April 2012 at 1655 hrs	
Location:	Runway 08, Bournemouth Airport	
Type of Flight:	Private	
Persons on Board:	Crew - 3	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Lower forward fuselage and nose landing gear doors damaged	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	65 years	
Commander's Flying Experience:	14,000 hours (of which 6,000 were on type) Last 90 days - 19 hours Last 28 days - 3 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The aircraft had flown to Gloucester from Biggin Hill after being repainted. During the approach, the nose landing gear failed to extend. The aircraft landed with the nose landing gear retracted, damaging the forward lower fuselage and nose landing gear doors. Tests and inspections were unable to identify a probable cause for the failure of the nose landing gear to extend.

History of the flight

The aircraft was being flown from Biggin Hill where it had undergone an interior refurbishment and a repaint. During the approach to land at Gloucester the nose landing gear failed to extend using both the normal and emergency systems. The aircraft landed with the nose

landing gear retracted, damaging the lower forward fuselage and nose landing gear (NLG) doors. The flight crew were uninjured and exited the aircraft through the main cabin door.

Investigation

After jacking the aircraft and depressurising the emergency landing gear extension system the nose landing gear doors were opened manually. Considerable force was required to open them due to the damage they had sustained during the landing. When the doors were opened, the NLG extended freely under gravity to the down position.

After recovering the aircraft, hydraulic fluid was found in the underside of the right wing and on the lower rear fuselage. This was traced to a hydraulic leak from the right main landing gear (MLG) uplock union. Landing gear function checks, with the NLG doors disconnected, confirmed that landing gear would extend normally and by use of the emergency landing gear extension system, despite the leak from the right MLG uplock union. The caster angle of the nose landing gear was measured as $4^{\circ} 30'$. The caster angle limit in the aircraft maintenance manual was $4^{\circ} \pm 15'$. It was not possible to measure the rigging of the NLG doors due to the damage they had sustained during the landing.

A review of the work carried out at Biggin Hill confirmed that no maintenance had been carried out on the NLG doors and that they had been painted in the closed

position. There had been no reported problems with the landing gear prior to the aircraft flying to Biggin Hill, or during its subsequent departure for Gloucester.

Analysis

In view of the lack of reported problems with the landing gear prior to the incident, the satisfactory results of the functional test of the landing gear extension systems, and the inability to carry out rigging checks of the NLG doors, there is insufficient evidence available at this time to identify the cause for the NLG failing to extend.