

No: 8/89

Ref: EW/G89/03/10

Category: 1b

**Aircraft Type
and Registration:**

Cessna 421C, G-BKSO

No & Type of Engines:

2 Continental Motors Corp GTSIO-520-N piston engines

Year of Manufacture:

1983

Date and Time (UTC):

23 March 1989 at 1215 hrs

Location:

Newcastle Airport

Type of Flight:

Private (pleasure)

Persons on Board:

Crew - 1 Passengers - 2

Injuries:

Crew - None Passengers - None

Nature of Damage:

Right main wheel, brake unit and shock strut

Commander's Licence

Airline Transport Pilot's Licence with Instrument Rating

Commander's Age:

37 years

**Commander's Total
Flying Experience:**

5,000 hours (of which 600 were on type)

Information Source:

Aircraft Accident Report Form submitted by the pilot and engineering examination by AAIB.

After backtracking along runway 25 the pilot lined up the aircraft with the runway centreline in preparation for take off. As he lined up, the pilot felt a vibration from the right main landing gear. He noticed that the right wing had adopted a low attitude and thought that the right tyre had punctured. The pilot informed ATC of the problem and requested permission to vacate the runway so that he could shut down the engines and inspect the aircraft. The aircraft was cleared to turn around and taxi to a holding point. As the aircraft completed the turn, the right landing gear partially collapsed.

Unfortunately the recovery from the runway of the failed parts associated with the right landing gear was incomplete. Those items that were recovered were given a detailed examination which included metallurgical examination of the right wheel inner rim. The failures associated with this wheel rim were caused by fatigue cracking which emanated from the wheel rim bead radius. Due to the damage present on the fractured surfaces, it was not possible to identify the origins of the fatigue.

Sections of the failed wheel rim appeared to have fouled the right brake disc and caliper, causing the latter to be torn from its mounting. The brake caliper had then rotated and contacted the shock strut, rupturing its lower attachment. This had caused the collapse of the right landing gear leg.