

No: 9/89

Ref: EW/G89/04/14

Category: 1c

Aircraft Type and Registration: Mooney M20C, G-BJAK

No & Type of Engines: 1 Lycoming O-360-A1D piston engine

Year of Manufacture: 1965

Date and Time (UTC): 14 April 1989 at 1915 hrs

Location: Halfpenny Green

Type of Flight: Private (pleasure)

Persons on Board: Crew - 1 Passengers - 1

Injuries: Crew - None Passengers - None

Nature of Damage: Damage to right hand flaps, aileron, rear spar and undercarriage retraction mechanism

Commander's Licence: Private Pilot's Licence with IMC and Night Ratings

Commander's Age: 30 years

Commander's Total Flying Experience: 650 hours (of which 45 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot

During an approach to Halfpenny Green airfield, the pilot experienced a problem with landing gear extension. The landing gear extension/retraction system is completely mechanical on this aircraft and is operated by a lever positioned between the front seats. The last few inches of movement of the lever pushes the landing gear legs into downlock. However on this occasion the pilot was unable to achieve the downlock position. The speed was reduced and the landing gear cycled, but to no avail. Eventually the pilot forced the lever into the downlock position to the accompaniment of "groaning noises" from the mechanism. Three passes were made over the airfield enabling an observer on the ground to confirm that the three wheels were visible. The pilot landed with full flap selected. Whilst the initial touchdown seemed normal, the right landing gear collapsed when the brakes were applied. The right wing contacted the ground and the aircraft swung to the right onto the grass alongside the runway, turning through some 180° before coming to rest. The pilot escaped without injury. It was later found that the right hand retraction tube had broken.

The aircraft had undergone an annual inspection some 40 flying hours before the accident and the landing gear was re-rigged at this time. During the subsequent checks, the left hand retraction tube failed and had to be replaced.

It would thus appear that the system has to be rigged with care, so that the fully downlocked position is achieved on all 3 landing gear legs. In particular, if one main landing gear leg achieves downlock before the other, the latter may not reach the downlock position. It is apparent that this can then lead to a situation where a retraction tube may be over-stressed and fail.

However, in this instance, it does not appear to have been positively established thus far that the rigging of the system was the prime reason for the failure to achieve the fully downlocked condition on the right landing gear leg.