

Aircraft type and registration: Cessna 310K G-AXLG (light twin engined fixed wing aircraft)

Year of Manufacture: 1966

Date and time (GMT): 21 February 1986 at 1130 hrs

Location: Coventry Airport

Type of flight: Business executive

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — None Passengers — N/A

Nature of damage: Damage to left propeller, outer flap, aileron, tip tank, and undercarriage mechanism

Commander's Licence: Private Pilot's Licence

Commander's Age: 64 years

Commander's Total Flying Experience: Approximately 8000 hrs (of which 2500 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot and examination of aircraft by AIB.

The aircraft was making an approach to Coventry Airport when, following an undercarriage down selection, only the nose and right main legs successfully locked down. Despite re-cycling the system three times, the left undercarriage red warning light remained lit so, after gaining a visual assessment from the control tower that the undercarriage leg was down, the pilot proceeded to land the aircraft. During the ground roll, the left undercarriage collapsed and the aircraft slewed off the runway to the left, damaging the propeller, flap, and tip tank on that side. The left tailplane also struck the ground and appeared to distort but, on recovery had resumed a normal appearance with no apparent damage.

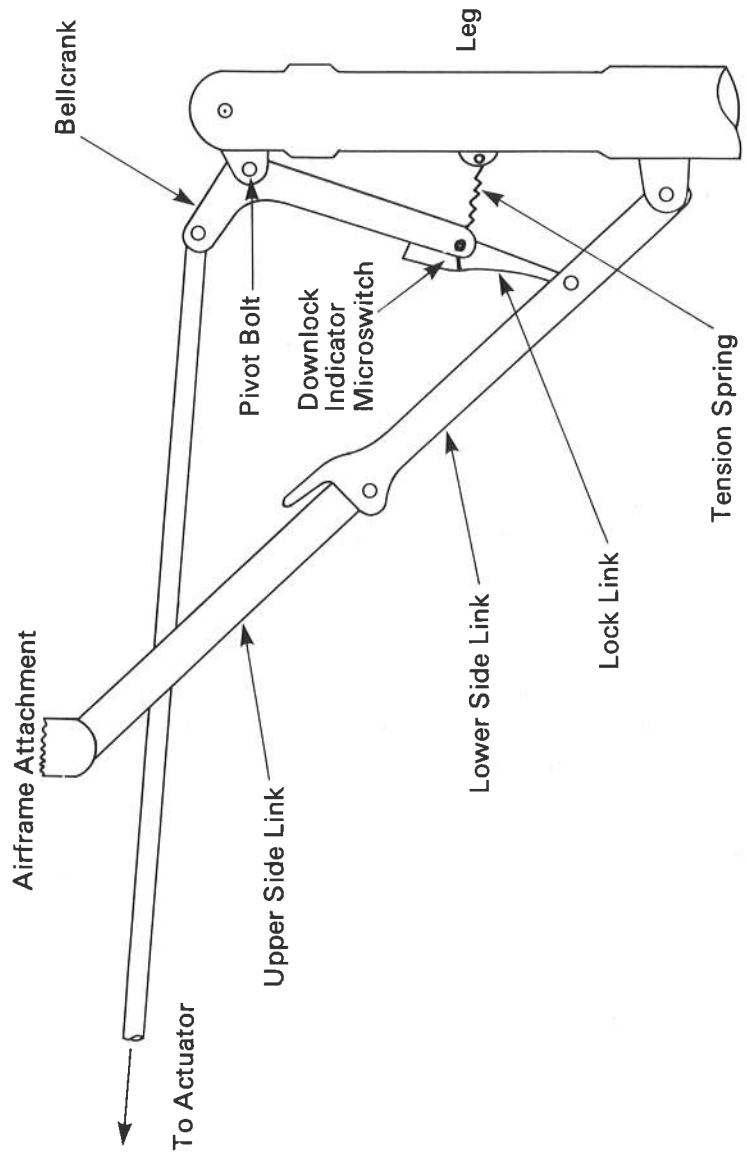
Subsequent examination of the undercarriage operating system revealed that as a result of the collapse a compression instability failure had occurred to the push/pull operating tube positioned above the left wheel well, this being the only failure in the system.

Closer inspection of the left undercarriage mechanism revealed that the attachment pivot of the sidestay to the undercarriage leg was very stiff and as a result the leg would not freely lock into the down position. It was apparent that a degree of wear was present in the centre joint of the sidestay lock, and that in order to lock the leg down a large side force needed to be applied to the lock. (See figure). The Cessna maintenance manual for the aircraft recommends that every 100 hours the gear down-lock mechanism be checked for positive lock and excessive wear. After the stiff pivot had been freed, the left undercarriage freely locked down with no change required to the rigging of the mechanism.

It was also determined that the down-lock microswitches for the left and right undercarriages

were actuating before the sidestay lock mechanisms were in their overcentre lock positions. Part of the rigging instructions in the Cessna maintenance manual state that these switches should be adjusted so they are not actuated until the landing gear is down and locked by the overcentre linkage.

The aircraft recently underwent an annual check, based on the CAA LAMS/FW/78 iss. 2 schedule, some 15 flying hours and 10 weeks before the accident in which a full functional check and examination of the undercarriage was required.



Main Landing Gear Schematic