

Accident

Aircraft Type and Registration:	Falco F8L, G-HCBW	
No & Type of Engines:	1 Superior XP-IO-320-B2HC2 piston engine	
Year of Manufacture:	2018 (Serial no: PFA 100-12788)	
Date & Time (UTC):	27 August 2024 at 1259 hrs	
Location:	Headcorn Aerodrome, Kent	
Type of Flight:	Training	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Left landing gear mechanism damaged	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	61 years	
Commander's Flying Experience:	6,033 hours (of which 41 were on type) Last 90 days - 103 hours Last 28 days - 33 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

During takeoff the aircraft bounced and, as a result of a cross wind, came down on its left wheel before climbing away. Despite the pilot's attempts to retract the landing gear, using both the normal and emergency systems, the landing gear would not retract. The pilot reselected DOWN but although the green down light was illuminated, the pilot took additional steps to ensure the gear was down. However, on landing the left gear partially collapsed bending its retraction screwjack. It is likely the left landing gear mechanism was damaged after the bounce during which higher than normal side loads may have occurred.

History of the flight

The pilot, who was a qualified flying instructor sitting in the right seat, had planned to carry out a differences training flight for the benefit of the aircraft's new owner. The pre-flight checks and taxi out to the runway were all normal. The pilot was demonstrating the takeoff and as he did so, an undulation on the runway caused the aircraft to bounce and descend sideways on the left wheel before becoming airborne and climbing away.

When the pilot selected landing gear UP, the red UNLOCKED light illuminated, and the landing gear circuit breaker tripped. The airfield air to ground (A/G) radio operator confirmed that the gear had not been seen to retract. Manual landing gear retraction was attempted but the handle would not move. The pilot selected gear DOWN and the green DOWN lamp illuminated. The landing gear telltale pins on the wing appeared to confirm this.

The pilot was uncomfortable that he could not fully rely on the aircraft configuration and carried out a fly-by. The A/G radio operator visually confirmed the landing gear appeared to be down. The pilot then carried out a normal landing during which the landing gear indicator remained green throughout. However, as the aircraft encountered unevenness on the runway during the landing roll, the pilot sensed the left wing dropping. He realised the left landing gear leg had partially collapsed and folded under the aircraft as the aircraft left the runway and came to a stop. The pilot made the aircraft safe, and he and the owner vacated the aircraft uninjured.

Aircraft examination

An examination of the aircraft found the retraction screwjack was bent with damage to its drive linkages and tube (Figure 1). In his own analysis, the pilot considers that the bounce on takeoff with a 90° crosswind, albeit low, caused a side drift which overloaded the landing gear retraction linkages.

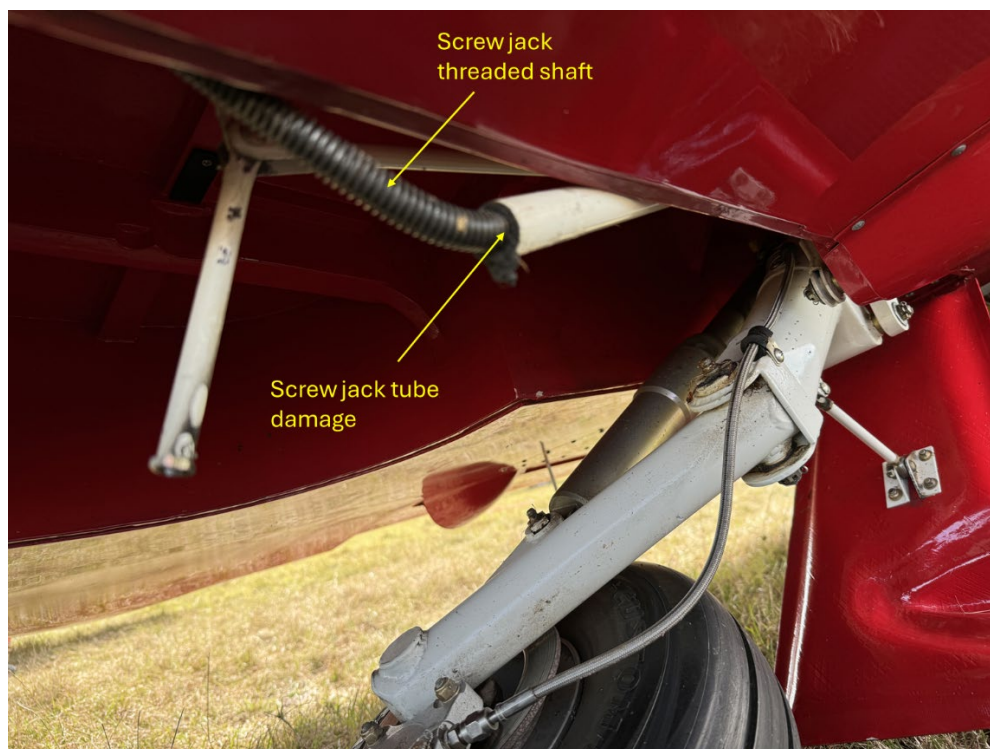


Figure 1

Damage to screwjack and tube
(picture courtesy of the pilot)

The damage may also have caused overloading of the screwjack motor resulting in the breaker tripping on UP selection. Despite indicating and outwardly appearing to be locked down, the geometric lock in the mechanism had probably been compromised. In this state it is possible that the landing and the loads imparted in the landing gear leg as it rolled along the runway, led to forces then being imparted into the screwjack bending it enough to cause the partial collapse of the left landing gear leg.