

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Casa 1-131E Series 2000 Jungmann, G-JWJW	
<b>No &amp; type of Engines:</b>	1 ENMA Tigre G-IV-B5 piston engine	
<b>Year of Manufacture:</b>	1957	
<b>Date &amp; Time (UTC):</b>	18 July 2006 at 1130 hrs	
<b>Location:</b>	Full Sutton Airfield, near York, Yorkshire	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Undercarriage and propeller damaged, engine shock loaded	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	61 years	
<b>Commander's Flying Experience:</b>	485 hours (of which 21 were on type) Last 90 days - 19 hours Last 28 days - 8 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

The aircraft bounced three times on landing, resulting in failure of the main landing gear. The pilot attributed the accident to lack of skill and experience on the type and the fact that the third bounce occurred on tarmac, which is less forgiving than grass. The investigation found no evidence to contradict this assessment.

## History of the flight

The pilot was conducting a private flight from Brighton to Full Sutton. When he contacted Full Sutton the pilot was told that Runway 22 was in use with a wind from 140° at 5 kt. The pilot made what he considered to be a normal approach, flaring just beyond the runway identification numbers and making a modest bounce

on touchdown. This was followed by another, heavier, bounce. On the third contact with the ground, which occurred on tarmac where the metalled taxiway crossed Runway 22, there was a "thud" which the pilot attributed to the oleos "grounding out"<sup>1</sup>. The pilot applied power to go around but immediately became aware of the left mainwheel entering his field of view, informing him that the landing gear was damaged. The pilot cut the power and continued to apply nose-up elevator as the aircraft descended. It made a very gentle landing on its underside and slid for approximately 30 m before coming to rest

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### Footnote

<sup>1</sup> Compressing to such an extent that the extendable oleo struts reached mechanical stops.

facing approximately 45° to the right of the runway axis. The propeller was damaged on impact with the runway and its sudden stoppage resulted in shock-loading of the engine. After turning off the fuel, ignition and electrics, the pilot and passenger exited the aircraft. The pilot removed the engine cowl to ensure that there were no fuel or oil leaks in the engine compartment.

### **Aircraft information**

The Jungmann is a light single-engine biplane originally conceived as a basic training aircraft. The main landing gear is equipped with oil damped “oleo” type shock absorbers which, when properly serviced, reduce the likelihood of bouncing on touchdown. An engineer and pilot familiar with the type noted, however, that the oleo’s leather oil seals are unreliable. Failure of an oil seal will result in a loss of damping and increase the likelihood of a bounce on touchdown. The pilot of G-JWJW commented that he checked the condition of the oleos on this aircraft regularly and considered them to be in good working order.

Although said to be “a joy to fly”, the type is also considered to be nose heavy and to lack elevator authority at low speed, which can result in high rates of descent on touchdown. Some owners address these characteristics

by placing ballast in the tail of their aircraft. The owner of G-JWJW intends to do likewise.

The pilot stated that G-JWJW usually bounced to some extent on landing but that he found it difficult to tell on each occasion whether it would settle or the bounces would develop into “kangaroo hops” of increasing amplitude. His normal practice, in the case of the latter, was to go around on the second bounce if it seemed “too big”. On this occasion he thought that the aircraft would settle after the second bounce. He commented that the oleos had “grounded out” on a previous occasion. He noticed that the oleo struts took an appreciable time to return to their full extension and surmised that their slow restitution properties might result in reduced damping on second and subsequent bounces. Other operators of the type contacted by the AAIB had no experience of this phenomenon.

### **Conclusion**

The pilot attributed the accident to lack of skill and experience on the type and the fact that the third bounce occurred on tarmac, which is less forgiving than grass. The investigation found no evidence to contradict this assessment.