

FINAL REPORT

AAIU Synoptic Report No: 2009-022

State File No: IRL00909058

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In accordance with the provisions of SI 205 of 1997, the Chief Inspector of Air Accidents, on 22 July 2009, appointed Mr. Paul Farrell as the Investigator-in-Charge to carry out a Field Investigation into this Accident and prepare a Synoptic Report. The sole purpose of this Investigation is the prevention of aviation accidents and incidents. It is not the purpose of the Investigation to apportion blame or liability.

Aircraft Type and Registration:	Cessna 172M, EI-BUA
No. and Type of Engines:	1 x Lycoming O-320-E2D
Aircraft Serial Number:	172-65451
Year of Manufacture:	1975
Date and Time (UTC):	22 July 2009 @ 10.20 hrs
Location:	Weston Airport (EIWT), Co. Kildare
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 0
Injuries:	Crew - Nil Passengers - Nil
Nature of Damage:	Substantial
Commander's Licence:	PPL(A), issued by the Irish Aviation Authority (IAA)
Commander's Details:	Male, aged 41 years
Commander's Flying Experience:	204 hours, of which 20 were on type
Notification Source:	Duty Manager, Weston Aerodrome
Information Source:	Air Accident Report Form submitted by Instructor - AAIU Field Investigation

SYNOPSIS

The Pilot was flying circuits in strengthening wind conditions. On landing off the fourth circuit the aircraft bounced twice. On the second bounce the nose undercarriage collapsed.

FINAL REPORT

1. FACTUAL INFORMATION

1.1 History of the Flight

The Pilot, who holds a valid PPL(A) issued by the Irish Aviation Authority (IAA), hired the aircraft at Weston Aerodrome. He checked the weather and decided that it was unsuitable for a navigation exercise; consequently he decided to practice circuit flying using runway (RWY) 25. The Automatic Terminal Information System (ATIS) gave the wind as 270°/10 kts. Having checked the aircraft serviceability, he successfully completed three circuits. The Pilot believed that the wind had become “*much stronger*”, he estimated 270°/24 kts. He decided that he would complete his flying after the fourth circuit. On approach after his fourth circuit, he maintained his airspeed and height profile as before but, following initial runway contact, the aircraft bounced and became airborne again. Subsequently the aircraft contacted the runway hard and bounced back airborne again. When the aircraft next contacted the runway the nose wheel fractured and the propeller, under power, struck the tarmac runway surface, while the aircraft slewed right towards the runway edge. Airfield Rescue Services promptly attended the scene; there were no injuries and the Pilot exited the aircraft unaided.

1.2 Witness Interview

The Investigation interviewed a witness, a qualified pilot himself, who observed the entire landing sequence from the terminal building area. The Witness described the aircraft on approach as “*low and slow*” and he said that it appeared to be “*sitting there in the wind*”. The Witness characterised the wind as a “*slight crosswind*”. He described the aircraft landing on the main undercarriage and pitching forward quickly onto the nose wheel. The aircraft then bounced back airborne rising to about 6 to 8 feet before the nose “*fell*” and the aircraft returned to the runway. This time the aircraft impacted nose wheel first followed by the main undercarriage and again bounced back airborne, though not as high as the first bounce. The third time the aircraft struck the runway the nose wheel sheared off and the aircraft veered to the right before coming to rest.

1.3 Damage to aircraft

The aircraft suffered substantial damage with the nose wheel being fractured and the propeller suffering multiple strikes on both blades (**Photo No. 1**). Ground marks found on the runway were consistent with the accounts of bouncing and landing given by both the Pilot and the Witness.

1.4 Pilot experience

The Pilot had 204 hours total experience, 44 hours as Pilot-in-Command (PIC) and 10 hours as Pilot-Under-Supervision (PUS). 180 of his hours were on Cessna 152s with the balance on Cessna 172s. In the 90 days before the accident the Pilot had accumulated 3 hours. The Pilot had no flights in the previous 28 days. On 2 June 2009, the Pilot was checked-out by an Instructor on Cessna 172. On that occasion the Pilot flew several circuits, take-offs and landings both as PUS and as PIC, without incident.

FINAL REPORT



Photo No. 1: Nose wheel and propeller damage

2. ANALYSIS

With just 3 hours experience in the previous 90 days, and none in the previous 28 days, the Pilot's currency with aircraft handling was less than optimal. The Pilot's decision to discontinue circuit flying when he perceived the wind strengthening indicates that he was conscious of his limitations and prudent in his actions. His concern about the strengthening wind, reported by him as 270°/24 kts, and associated crosswind component, allied with his general lack of recent currency, may have manifested in some mis-handling of the aircraft in the final seconds of the approach. The Aircraft's airspeed may have reduced to such an extent that it was at or near the stalling speed. Handling of the bouncing profile may have been hampered by his lack of recent experience.

FINAL REPORT

3. CONCLUSIONS

(a) Findings

1. The aircraft was serviceable.
2. The Pilot held a valid PPL(A).
3. While landing the aircraft bounced twice, the nose wheel fractured and the propeller struck the runway, causing substantial damage to the aircraft.

(b) Probable Cause

Inappropriate recovery from a bounced landing.

(c) Contributory Cause(s)

Lack of recent flying experience/currency.

4. SAFETY RECOMMENDATIONS

This Investigation does not sustain any Safety Recommendations.

- END -