Aviation Safety Investigation Report 199905208

Cessna Aircraft Company C182

06 November 1999

Readers are advised that the Australian Transport Safety Bureau investigates for the sole purpose of enhancing transport safety. Consequently, Bureau reports are confined to matters of safety significance and may be misleading if used for any other purposes.

Investigations commenced on or before 30 June 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with Part 2A of the Air Navigation Act 1920.

Investigations commenced after 1 July 2003, including the publication of reports as a result of those investigations, are authorised by the Executive Director of the Bureau in accordance with the Transport Safety Investigation Act 2003 (TSI Act). Reports released under the TSI Act are not admissible as evidence in any civil or criminal proceedings.

NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Aviation Safety Investigation Report

199905208

Occurrence Number: 199905208 **Occurrence Type:** Accident
Location: Moorabbin, Aerodrome
State: VIC **Inv Category:** 4
Date: Saturday 06 November 1999
Time: 1655 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Cessna Aircraft Company
Aircraft Model: 182S
Aircraft Registration: VH-EUX **Serial Number:** 18280117
Type of Operation: Non-commercial Pleasure/Travel
Damage to Aircraft: Substantial
Departure Point: Moorabbin Vic.
Departure Time:
Destination: Moorabbin Vic.

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Private	3.4	80

Approved for Release: Thursday, January 20, 2000

VH-EUX was conducting a normal approach to runway 22. The pilot positioned the aircraft on final approach with 2 stages of flap and trimmed for 70 knots with power on. The pilot selected 3 stages of flap (40 degrees in Cessna 182S) when he descended through 200 to 150 feet AGL. The pilot reported that all indications appeared to be normal until the aircraft entered the flare prior to touchdown. The pilot reported that the aircraft would not roundout. In particular, the pilot stated that he pulled the control yoke fully aft to obtain maximum elevator deflection to pitch the nose up during the attempted flare. The pilot was unable to pull the aircraft nose up sufficiently to prevent the nose wheel from impacting the runway.

During the touchdown sequence, the aircraft bounced 4 times. During the first impact, the aircraft nose wheel and right hand main wheel had impacted the runway first. The pilot then applied power to raise the nose but during this sequence the aircraft impacted the runway heavily again, further damaging the nose wheel. The pilot was then committed to the landing and allowed the aircraft to bounce another two times after which the aircraft came to rest. The aircraft had suffered considerable damage to the nose wheel, the propeller, and the engine bay. The pilot and passengers were uninjured.

The pilot reported that the nose wheel oleo was completely deflated and the nose wheel directional steering mechanism was damaged. The propeller was bent inwards and one blade could freely move about the propeller hub. The engine had been displaced about 6 inches upwards during impact. In addition, the right hand wing strut had transferred the force of the impact to the wing surface which indicated some skin distortion. The engine cowling skin was also deformed.

The Chief Flying Instructor (CFI) of the organisation that hired the aircraft to the pilot stated that the engine firewall was buckled and the propeller was bent inwards at about 90 degrees 6 inches in from the blade tips. In addition, there was about 5 inches of control cable slack due to the buckling of the floor and the firewall damage. The CFI estimated that the control cables probably suffered this damage during the first impact which would have limited the pilots ability to obtain reasonable control of the elevator during subsequent impacts. The nose wheel struts were bent and pushed into the firewall. There was also a crease in the roof line where the wings join the fuselage. The right main wheel was also damaged.

The pilot had accrued a total flight time of 80 hours of which 26 hours were as pilot-in-command. The Chief Flying Instructor (CFI) considered the pilot as quite proficient or above average but the pilot may have exceeded his ability on this occasion. The pilot had accrued a total of 2.4 hours flight time in EUX prior to the accident flight. The pilot had obtained 3 advanced aircraft type endorsements but had only accrued 10 hours pilot-in-command in a Piper Arrow. The pilot had not consolidated on a Cessna 182S before undertaking additional endorsements.

The weather at the time of the accident was Special VFR. At the time of the occurrence the pilot reported that the cloud ceiling was between 900 to 1200 feet AGL with a 4-5 KM visibility with Nimbostratus in the area. The pilot said that the ATIS had reported a ceiling of 800 feet. Virga had been noted in the vicinity of the airfield and wind shear may have been a possible contributing factor in this occurrence. The pilot noticed rain on the southern boundary of the airfield when he was on final approach for runway 22. The pilot also reported moderate turbulence throughout the flight. Furthermore, the pilot said that the wind was almost a direct headwind for runway 22 at about 25 knots.

The CFI confirmed that there was moderate turbulence in the area. The CFI thought that the pilot may have experienced some wind shear or a wind gust coupled with a high sink rate when the pilot selected full flap at about 200 ft AGL on finals. The pilot's relatively low total time and, in particular, the low experience on type may have contributed to the current accident.

The company will be ensuring that all pilots will be required to accrue 10 hours pilot-in-command on each advanced aircraft type before being permitted to obtain additional endorsements. In addition, the accident pilot has been thoroughly de-briefed by the CFI.