Aviation Safety Investigation Report 199904719

Cessna Aircraft Company 310R

26 September 1999

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Occurrence Number: 199904719 **Occurrence Type:** Incident
Location: 11km NNW Sydney, Aerodrome
State: NSW **Inv Category:** 4
Date: Sunday 26 September 1999
Time: 0900 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Cessna Aircraft Company
Aircraft Model: 310R
Aircraft Registration: VH-JZW **Serial Number:** 310R0073
Type of Operation: Charter Passenger
Damage to Aircraft: Nil
Departure Point: Moree NSW
Departure Time:
Destination: Sydney NSW

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Commercial	330.0	2350

Approved for Release: Tuesday, November 2, 1999

VH-JZW had conducted two unsuccessful ILS approaches in IMC to Sydney runway 16 left (16L). JZW was being radar vectored for a third ILS attempt when the pilot elected to proceed to Bankstown. The pilot was unable to execute the approaches within the required tolerances for azimuth and glide slope tracking because of a glide slope failure in the cockpit and the geographic disorientation of the pilot.

During the first ILS approach, the pilot established the aircraft on the localiser and initiated a descent at 600ft per minute. The pilot then noticed large fluctuations of the glide slope needle with intermittent fail flag indications on the instrument. The pilot performed a DME/height check which confirmed that the aircraft was high. Consequently, the pilot increased the descent rate and considered a LLZ/DME approach. The pilot estimated that the aircraft was still too high and elected to conduct a missed approach. The Sydney Tower controller reported that JZW crossed the runway 16L threshold at 1000 ft.

During the second approach attempt, the Tower controller reported that JZW was established on the localiser at 10 DME. During this sequence, the pilot noticed that the glide slope needle was still fluctuating unpredictably with intermittent fail flag indications. The pilot then elected to conduct a LLZ/DME approach. The Tower controller observed the aircraft on radar to deviate to the right and then track between the 16L and 16R localisers. When the Tower controller advised the pilot of these deviations, the pilot attempted to track towards the 16L localiser. JZW failed to intercept final and crossed the 16L centreline at 6 nm on a south-easterly heading at 2,000 ft and descending. The Tower controller instructed JZW to execute a missed approach to ensure that JZW avoided an area of high buildings along its projected track. During the second approach sequence, the pilot stated that there were difficulties contacting Sydney Tower and that the DME lock had inadvertently been activated.

The pilot elected to conduct a third approach to runway 16 right. The pilot was radar vectored to intercept the localiser but experienced ongoing and excessive glide slope indications coupled with general anxiety and uncertainty about radio communications and the aircraft's DME unit. Consequently, the pilot elected to divert to Bankstown and landed without incident. The high workload, limited instrument flying experience, and the distractions precipitated by the radio communications difficulties and a failure of the aircraft's glide slope contributed to this incident.

A post-flight inspection revealed that the aircraft's glide slope unit was faulty. The glide slope unit was repaired and functioned correctly when the pilot conducted an ILS approach into Sydney two days after the current incident. The operator is considering installing a new ILS unit in the aircraft in addition to providing the company line pilots with a CASA approved PC-based synthetic IFR trainer to help improve pilot instrument flying skills.