Aviation Safety Investigation Report 199700172

Cessna Aircraft Company Titan

16 January 1997

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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

199700172

The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number: 199700172 **Occurrence Type:** Incident
Location: Renmark, Aerodrome
State: SA **Inv Category:** 4
Date: Thursday 16 January 1997
Time: 1759 hours **Time Zone** ESuT
Highest Injury Level: None

Aircraft Manufacturer: Cessna Aircraft Company
Aircraft Model: 404
Aircraft Registration: VH-UOP **Serial Number:** 4040636
Type of Operation: Air Transport Passenger Scheduled
Damage to Aircraft: Nil
Departure Point: Renmark SA
Departure Time: 1859 ESuT
Destination: Adelaide SA

Approved for Release: Thursday, March 20, 1997

Shortly after the Cessna Titan had departed from Renmark the pilot advised he had problems with the elevator trim control and would be returning to land. Although the pilot said that the controls felt heavy he was able to carry out a satisfactory landing.

An initial inspection found the right elevator trim tab was not responding to trim wheel movement.

Detailed maintenance inspection disclosed that the right elevator trim actuator drive sprocket was sheared. The sprocket shaft support bearing had worn such that the bearing was severely elongated. It was determined that if the drive cables were properly tensioned this wear would not be noticed during a visual inspection.

The operator conducted a fleet check of the actuators which are used in the aileron, rudder and elevator control systems of the Titan as well as other Cessna aircraft. The fleet check disclosed one other severely worn actuator.

The company maintenance system manual (MSM) has a requirement for a visual inspection to be carried out every 100 hours. The MSM did not specify an overhaul period. However it was found that the aircraft manufacturer has a requirement for these actuators to be overhauled every 1,000 hours. The operator had never overhauled these actuators because the MSM did not reflect the manufacturer's requirement.

It is not known why the manufacturer's requirement had not been transcribed into the MSM. Approval of the content of the MSM is twofold. Firstly the operator has the manual compiled and internally assessed and approved. Secondly, the manual is submitted to the Airworthiness Branch of the Civil Aviation Safety Authority for formal approval by the Authority. Both assessment sequences failed to detect the omission.

The operator and the Authority have agreed on program to phase introduction of the overhaul period into the fleet. They have also conducted an audit of the operator's MSM to ensure that the manual accurately reflects the manufacturer's requirements.

The Authority advised that an assessment of other operators of Cessna twin engined aircraft fitted with these actuators have found some who were not aware of and not complying with the manufacturer's overhaul requirement.