



GOVERNMENT OF AUSTRALIA

DEPARTMENT OF TRANSPORT

Reference No.

AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

Publication of this report is authorised by the Secretary under the provisions of Air Navigation Regulation 283(1)

AS/732/1059

1. LOCATION OF OCCURRENCE

an Vale, 32 kilometres east of Inverell, N.S.W.	Height a.m.s.l. 3200 feet	Date 6.9.73	Time (Local) 1300 hours	Zone EST
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2. THE AIRCRAFT

Make and Model Transavia PL12 "Airtruk"	Registration VH-TRJ	Certificate of Airworthiness Valid from 10.2.67 to 9.2.76
Certificate of Registration issued to Hazair Agricultural Services (Albury) Pty. Ltd., P.O. Box 438, Albury, N.S.W.	Operator Hazair Agricultural Services (Albury) Pty. Ltd., P.O. Box 438, Albury, N.S.W.	Degree of damage to aircraft Substantial Other property damaged Nil
Defects discovered Nose wheel steering pivot pin (P/N 6-24) failed in the vicinity of the top of the lower pivot bush.		

3. THE FLIGHT

Last or intended departure point "Warrawee" Station, S Vale	Time of departure 1300 hours	Next point of intended landing Point of Departure	Purpose of flight Superphosphate Spreading	Class of operation Aerial Work
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4. THE CREW

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
Douglas Gordon GRAHAM	Pilot	26	Commercial	1514	1997	Fatal

5. OTHER PERSONS (All passengers and persons injured on ground)

Name	Status	Degree of injury	Name	Status	Degree of injury

6. RELEVANT EVENTS

The aircraft commenced operations from an agricultural airstrip on Warrawee Station at about 1100 hours on the day of the accident and, on each flight, some 860 kg of superphosphate was uplifted and spread on properties in the area. At about 1200 hours, when 13 flights had been completed, operations ceased temporarily while the personnel concerned had a meal break. The aircraft was then refuelled, operations recommenced about 1230 hours and six further flights were completed. After being reloaded with superphosphate, the aircraft commenced another take-off but at a point some 44 metres along the take-off path, the nose wheel support assembly collapsed. The aircraft skidded for 7 metres on the collapsed assembly until the structure dug into the ground and the aircraft nosed over. The pilot's compartment was partially crushed as the aircraft came to rest in an inverted position.

Examination of the collapsed nosewheel support assembly revealed that the nosewheel steering pivot pin had failed at the lower end and that the failure had originated from fatigue cracking. The fatigue cracking resulted from in-service bending loads which had been applied to the pin over a period following loss of the axial pre-load which is required at the installation of the pivot pin assembly. The loss of pre-load probably resulted from wear of various components which occurred prior to and subsequent to the installation of the assembly some 70 flying hours prior to the accident, combined with an adverse accumulation of manufacturing tolerances.

OPINION AS TO CAUSE

The cause of this accident was that, having regard to the design of the nose undercarriage, the prescribed maintenance procedures were not adequate to prevent a failure of the nosewheel steering pivot pin in service.

Approved for
publication(Frank E. Yeend)
Delegate of the SecretaryDate
2.5.1975