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Aviation Safety Investigation Report 198803427

Snow 600-S2D

26 January 1988

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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.

Occurrence Number: 198803427 Occurrence Type: Accident

Location: 18 km SE Dalby QLD

Date: 26 January 1988 **Time:** 600

Highest Injury Level: Nil

Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	1	1
Ground	0	0	0	-
Passenger	0	0	0	0
Total	0	0	0	1

Aircraft Details: Snow 600-S2D

Registration: VH-FCN
Serial Number: 600-1363D
Operation Type: Aerial Work
Damage Level: Substantial
Departure Point: Dalby QLD

Departure Time: 0530

Destination: Dalby QLD

Approved for Release: December 20th 1988

Circumstances:

The rudder failed when the pilot initiated a climb at the end of a spray run. The rudder was bent over at the top by about 45 degrees, but the pilot was able to maintain control of the aircraft and carry out a safe landing at Dalby. The rudder spar had failed above the top hinge point near a weld which was associated with a modification to replace the single point hinge with a three point hinge. The failure of the spar was caused by the pressure of a crack which had not been detected prior to the welding of the upper hinge modification. This accident was not the subject of an onsite investigation.

Significant Factors:

It was considered that the following factors were relevant to the development of the accident

- 1. Cracked rudder spar prior to welding of upper hinge modification.
- 2. The crack was not detected during modification.
- 3. Crack propagation due to repeated loading, leading to complete failure of the rudder spar in flight.

Reccomendations:

During the investigation it was recommended that an Alert Airworthiness Directive be issued immediately to institute inspection of rudders on all Snow and Thrush Commander aircraft, and this directive was subsequently issued by the (then) Airworthiness Branch of the Department of Transport and Communications.