

**Aviation Safety Investigation Report
199301592**

**Aero Commander Div
Shrike Commander**

16 May 1993

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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: 199301592 **Occurrence Type:** Incident
Location: 9km E Broken Bay
State: NSW **Inv Category:** 3
Date: Sunday 16 May 1993
Time: 1230 hours **Time Zone** EST
Highest Injury Level: Minor

Aircraft Manufacturer: Aero Commander Div
Aircraft Model: 500-S
Aircraft Registration: VH-IBY **Serial Number:** 3057
Type of Operation: Miscellaneous Search and Rescue
Damage to Aircraft: Nil
Departure Point: Bankstown
Departure Time:
Destination: Bankstown

Crew Details:

Role	Class of Licence	Hours on	
		Type	Hours Total
Pilot-In-Command	ATPL 1st Class	350.0	14500

Approved for Release: Thursday, February 1, 1996

VH-IBY and another aircraft VH-LCE were involved in Precision Aerial Delivery System (PADS) training. Two deployments were performed from VH-LCE. On the third drop which was the first drop from VH-IBY, the PADS unit was released from the aircraft, but during the deployment, the static line became detached from the aircraft seat rail attachment point. The crew member who had deployed the PADS became momentarily entangled in the static line and received a minor injury.

On the day of the occurrence the crew had difficulty locating a tiedown fitting which could be attached to the seat track of VH-IBY. The pilot produced a tiedown fitting which was subsequently attached to the left inboard seat rail track about two-thirds of the way forward. The PADS static line was then connected to the tiedown ring with a shackle.

Examination of the tiedown fitting revealed that it failed under applied load.

The tiedown fitting was identified as a Cessna Citation part and when attempts were made to install the same type of fitting onto the seat track of VH-IBY, the tiedown would not fit without spreading the tangs apart. Although the tiedown fitting used was an approved Cessna part, it was not approved for use on Aero Commander 500S type aircraft and therefore it did not fit the seat track profile of VH-IBY.

Safety Action

As a result of the investigation the following Interim Recommendation (IR930090) was made:

That the Civil Aviation Authority amends the wording of the PADS flight manual supplement to reflect specifically how and where the static line is to be secured to the aircraft. If tie down fittings are being used to secure the static line to the seat tracks then those fittings should be approved and unambiguously identified for use in that aircraft type.

Interchangeability of approved fittings between aircraft of the same type may be compromised by non standard seat tracks being fitted into specific aircraft. ie Aerocommanders modified to Coastwatch specifications.

The Civil Aviation Authority responded as follows:

I refer to BASI Interim Recommendation 930090 regarding the Flight Manual Supplement for the Precision Aerial Delivery System.

We do not entirely agree with the BASI Interim Recommendation.

In our view, the primary cause of the incident may have been either an excessively worn seat rail or use of an inappropriate tie down fitting - one neither supplied by the aircraft manufacturer nor locally approved for use in the Aero Commander. Use of improper tie downs in a restraint system will always introduce an unacceptable risk of failure of the system when carrying freight, baggage or any other application of these fittings. Increasing the amount of detail in the Flight Manual Supplement specific to PADS operation is not considered the most efficient means of addressing the problem and will not necessarily achieve the desired aim.

There is no concern that operators will deliberately disregard information relating to attachment of PADS static lines so the details need only have advisory status. Flight Manuals and Flight Manual Supplements are a means by which the Authority exercises control over mandatory aspects of aircraft operation, but they represent a notoriously expensive and labour intensive activity. As a consequence of the Authority becoming a Government Business Enterprise there is substantial pressure to reduce the reliance on Flight Manual amendments, particularly where they only broadcast general or non-mandatory information.

The Authority is of the view that a more appropriate place for this information is the Operations Manual. These Manuals are readily amended, are familiar to company personnel and can be used to present information specific to individual aircraft and the companys methods and operations. We will arrange for suitable details to be passed to relevant operators for insertion in their Operations Manuals.'

Status of response: Closed - Accepted