

**Aviation Safety Investigation Report  
198600699**

**Piper PA32-300**

**13 June 1986**

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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](http://www.atsb.gov.au).**

**Occurrence Number:** 198600699                      **Occurrence Type:** Accident  
**Location:** Kantappa Station, 78km NNW of Broken Hill NSW  
**Date:** 13 June 1986                                      **Time:** 1734  
**Highest Injury Level:** Fatal  
**Injuries:**

	Fatal	Serious	Minor	None
Crew	1	0	0	0
Ground	0	0	0	-
Passenger	3	0	0	0
<b>Total</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Aircraft Details:** Piper PA32-300  
**Registration:** VH-BTL  
**Serial Number:**  
**Operation Type:** Private(Travel)  
**Damage Level:** Destroyed  
                             Border Downs Station,  
**Departure Point:** 187km NNW of Broken Hill  
                             NSW  
**Departure Time:** 1734  
**Destination:** Broken Hill NSW

**Approved for Release:** July 15th 1987

**Circumstances:**

The pilot was conducting a flight under Night Visual Flight Rules from his property to Broken Hill. About 30 minutes after DEPARTURE the pilot reported that the aircraft engine was running roughly. Shortly afterwards he reported that the engine cowling had become detached and then that the aircraft was on fire. No further transmissions were received from the aircraft which was destroyed as a result of impact forces and fire. It was established that the No.3 cylinder became detached from the engine crankcase and damaged the engine cowling as it was forced outwards against it. The cowling blew back against, and smashed the left windshield. Engine oil escaped from the crankcase where the cylinder had been attached, and was blown onto the cabin area. The likely source of the fire was fuel escaping from broken fuel lines. Engineering investigation revealed that the lower front, half-inch cylinder hold-down nut ceased to maintain tension on the hold-down plate. Other cylinder hold-down nuts from this engine were examined and showed no signs of structural weaknesses. It is considered that the subject nut also complied to specifications, although this nut was not recovered. The engine had been overhauled 46 flight hours prior to the accident. It is considered that the nut was incorrectly torqued at that overhaul. The reason for the incorrect torquing of the cylinder hold-down nut could not be established. The subsequent severe impact with the ground was a result of the extreme distractions with which the pilot had to contend. The aircraft was cruising at 3500' AMSL when the engine disintegrated and the fire broke out. Part of the emergency procedure for this type of occurrence is to dive the aircraft in an attempt to blow out the fire. As the aircraft impacted the ground in a steep nose-down but wings near-level attitude, and only slightly off course, it is thought that the pilot was complying with that drill. However, the low cruising altitude did not afford him sufficient time to accomplish this and establish the

aircraft in a more suitable attitude for a forced landing. His limited night flying experience in combination with a dark night might have resulted in him not being able to estimate his height above ground level.