

**Aviation Safety Investigation Report  
198800722**

**Bell 47G-3B1**

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

**Occurrence Number:** 198800722

**Occurrence Type:** Accident

**Location:** 20 km E Narbarlec NT

**Date:** 10 July 1988

**Time:** 1752

**Highest Injury Level:** Fatal

**Injuries:**

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

**Aircraft Details:** Bell 47G-3B1

**Registration:** VH-KSL

**Serial Number:** 6642

**Operation Type:** Private

**Damage Level:** Substantial

**Departure Point:** Goomadeer Mission NT

**Departure Time:** 1750

**Destination:** Goomadeer Mission NT

**Approved for Release:** 20 December 1988

#### **Circumstances:**

The pilot had shut down the helicopter to kill and load meat for a stock camp. After starting and completing the after-start checks, the pilot first entered a low hover. The aircraft was then put into a high hover about 10 ft above the tree tops before a climb was initiated into a wind of 15-20 kts. The pilot reported that as he accelerated through about 40 kts, he noticed a substantial reduction in the manifold pressure reading with the engine RPM at about 3000. The aircraft then began to sink into the tree tops. Some 100 metres further on, the main rotor blades struck a large tree trunk and the aircraft fell to the ground on its right side. The pilot was rendered unconscious at impact, but after regaining consciousness he assisted the surviving passenger from the wreckage and freed the other passenger's leg from under the cabin before dragging him clear. A strip inspection of the engine and turbocharger revealed significant defects. These included the density controller was set below tolerance; a cracked and warped wastegate butterfly; and a sticking wastegate actuator. Physical damage to the engine was attributed to poor engine handling. The cumulative effects of these defects would have reduced the available power output from the engine, but do not in themselves explain the symptoms reported by the pilot. In addition, the power available was sufficient for the pilot to execute a towering take-off. A turbocharger failure would have produced the loss of power experienced by the pilot, but no possible cause or result of such a failure was discovered. The pilot reportedly did not make a significant reduction in power after the high hover, so that it is unlikely that a sticking wastegate caused the problem. The cause of the reported loss of power was not determined.

#### **Significant Factors:**

The following factors were considered relevant to the development of the accident

1. Loss of engine power for undetermined reasons.

2. Flight over terrain unsuitable for emergency landing.