Aviation Safety Investigation Report 198800705

Bell B47-3B1

19 March 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: 198800705 **Occurrence Type:** Accident
Location: Katherine Gorge NT
Date: 19 March 1988 **Time:** 1030
Highest Injury Level: Nil
Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	1	1
Ground	0	0	0	-
Passenger	0	0	0	2
Total	**0**	**0**	**0**	**3**

Aircraft Details: Bell B47-3B1
Registration: VH-SJI
Serial Number: 6632
Operation Type: Charter
Damage Level: Substantial
Departure Point: Katherine Gorge NT
Departure Time: N/A
Destination: Sliesbeck NT

Approved for Release: 2 August 1988

Circumstances:

The pilot intended to transport two passengers and their equipment along the Katherine Gorge. The helipad used for take-off was on the side of the gorge, some 40 feet above the river level. The pilot initiated a running take-off on the skids, but the helicopter began to sink as it left the river bank. Full throttle was applied, but without effect. As the helicopter approached the opposite bank at tree-top level, the pilot raised the collective lever in an attempt to clear the trees. The aircraft did not respond and as it continued to sink, the pilot recalled seeing the engine and rotor rpm decay towards the lower limit of the operating range. The helicopter descended into the trees and came to rest on its left side about 400 metres from the take-off point. The pilot subsequently advised that the helicopter had not been performing as well as he had expected during previous flights. Investigation revealed that the engine had been unable to develop rated power output and that the helicopter was some 114 kilograms over the maximum permissible all-up weight. Detailed examination of the turbocharger revealed that various components had suffered severe deterioration. The unit had exceeded its authorised life by nearly 400 hours. It was also likely that pilot operating techniques had contributed to the faults in the turbocharger, in that insufficient engine idling time prior to shutdown had been allowed.

Significant Factors:

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

1. The aircraft had been inadequately maintained and inspected.

2. The turbocharger had deteriorated as a result of excessive time in service, and from improper pilot operating procedures.

3. The pilot was aware that the aircraft was not performing as expected, but had not taken steps to ascertain the reason.

4. The pilot attempted to operate the aircraft in excess of the maximum permissible all up weight.

5. The engine was unable to develop sufficient power to enable the aircraft to sustain flight.

Reccomendations:

It is recommended that the Civil Aviation Authority gives consideration to increasing the level of surveillance of charter and aerial work operators.