

COMMONWEALTH OF AUSTRALIA-BUREAU OF AIR SAFETY INVESTIGATION
AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

REFERENCE NO.
SI/835/1015

1. LOCATION OF OCCURRENCE

8km south of Narrogin township, W.A.

Elevation: 1000 feet

Date: 2 May 1983

Time: 1832 hours

Zone: WST

2. THE AIRCRAFT

Make and Model: Cessna 172N

Registration: VH-WXK

Certificate of Airworthiness: Valid from 8.9.78

Certificate of Registration Issued to:

R.H. Green
29 Orrong Road
LATHLAIN WA 6100

Operator:

Not applicable

Degree of Damage to Aircraft: Destroyed

Other Property Damaged: Nil

Defects discovered:
Nil

3. THE FLIGHT

Departure Point: Katanning

Time of departure: 1640

Destination: Jandakot

Purpose of flight: Personal transportation Class of Operation: Private

4. THE CREW

Name	Status	Age	Class of Licence	Hours on Type	Total Hours	Degree of Injury
Robert Hampton GREEN	Pilot	47	Private	280	280	Fatal

5. OTHER PERSONS (ALL PASSENGERS AND PERSONS INJURED ON GROUND)

Name	Status	Degree of Injury
Not applicable		

6. RELEVANT EVENTS

The pilot intended to fly from Hampton Rock to Jandakot with an intermediate landing at Katanning. Prior to departure from Hampton Rock he obtained the relevant weather forecasts for the route and lodged a flight plan with Kalgoorlie Flight Service Unit. The pilot held a valid Private Pilot licence with a Class 4 Instrument Rating, which permitted him to conduct flights by day or night in visual meteorological conditions. The flight plan submitted indicated that he would proceed in accordance with the appropriate rules governing visual flight, and the weather forecasts indicated that conditions would be suitable for visual operations as far as Katanning. Beyond this point extensive areas of rain and low cloud were forecast, although the weather at Jandakot was expected to be satisfactory.

The flight proceeded without recorded incident to Katanning. While conducting business in the town, the pilot was telephoned by Perth Flight Service Centre, and was advised that the weather conditions at Jandakot had become worse than forecast and were expected to deteriorate further. It was arranged that further information on the weather would be provided to the pilot after departure when the aircraft established radio communications with Flight Service.

The aircraft departed Katanning at 1640 hours WST, with a planned arrival time at Jandakot of 1755 hours, which was close to last light. Two way radio communication with Perth was not established until 1723 hours, when the pilot reported that he was diverting to Pingelly because of adverse enroute weather conditions. At 1740 the aircraft arrived at Pingelly but the pilot reported two minutes later that he was unable to locate the airfield. He requested advice regarding the appropriate radio frequency to enable him to activate the airfield lighting, however the strip at Pingelly is a small, privately owned one which does not have any pilot operated lighting facilities. The pilot was provided with the frequency for the strip lighting at Narrogin, 48km to the south of Pingelly, which was the nearest airfield with this facility. At 1749 hours the pilot advised that he was proceeding to Narrogin, and did not indicate that he required any further assistance from Flight Service. However, because the pilot was proceeding into uncertain weather conditions and would not arrive at Narrogin until after last light, concern was felt for the safety of the operation. At 1800 hours the Uncertainty phase of Search and Rescue procedures was implemented.

The provision of assistance to the pilot was hampered by increasingly intermittent radio contact. The aircraft had no long range, high frequency radio equipment; only a relatively short range, very high frequency transmitter and receiver. Two way communications could not be maintained after 1807 hours, at which time the pilot advised he would arrive at Narrogin 3 minutes later, and would telephone advice of his arrival to Perth by 1830 hours. Between 1813 and 1815 four transmissions from the aircraft were received, but only the first one or two words of each were intelligible. After 1815 hours no transmissions were recorded that could be attributed to the aircraft.

6. RELEVANT EVENTS

A number of residents of Narrogin observed the aircraft flying around the town at about 1810 hours. From subsequent manoeuvres it was established as probable that the pilot was attempting to locate the airfield, which is situated about 9km west of the town. For aircraft flying at low altitudes near the township the airfield is hidden behind some intervening hills, and subsequent investigation did not reveal whether the pilot was aware of this fact. In addition, as there were no known witnesses at the airfield, it could not be established whether the pilot had been successful in activating the strip lighting, however the lighting equipment operated satisfactorily when tested the following day.

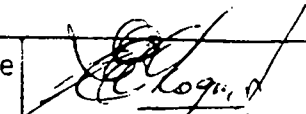
At about 1830 hours the aircraft was observed to be flying parallel with a road south of the town. It was operating at a very low height and the landing lights were on. After flying along a paddock the aircraft was seen to climb over some trees and to enter a turn to the right. During the turn the engine lost power and the aircraft struck the ground heavily in another paddock.

A subsequent detailed investigation did not reveal any mechanical defect with the airframe, engine or associated systems of the aircraft. The engine had lost power because of fuel exhaustion after a total elapsed flight time of 3½ hours. It is probable that while manoeuvring for a precautionary landing the engine failed from fuel exhaustion at a point where the pilot was unable to recover control of the aircraft before it impacted the ground.

7. RELEVANT FACTORS

- a) The pilot encountered adverse weather conditions, which had been forecast.
- b) The radio equipment fitted to the aircraft did not allow adequate communications to be maintained under the circumstances prevailing.
- c) A diversion was initiated in daylight but the pilot was unable to locate the appropriate strip.
- d) The pilot elected to proceed to another airfield, arrived in the area after dark and was again unable to locate the strip.
- e) Fuel exhaustion at a point where a safe landing could not be accomplished.

Approved for publication under the
provisions of Air Navigation
Regulation 283(1)


(P.E. Choquenot)

Director

Date:

1.11.83

COMMONWEALTH OF AUSTRALIA
BUREAU OF AIR SAFETY INVESTIGATION
AIRCRAFT ACCIDENT REPORT

The Secretary to the Department of Aviation authorised the investigation of this accident and the publication of this report pursuant to the powers conferred by Air Navigation Regulations 278 and 283 respectively.

RECORD NUMBER: 825023

AIRCRAFT TYPE: ROBINSON R22 REGISTRATION: VH-UXC

LOCATION OF ACCIDENT: 25km North of MAROONAH (HORSE WELLS)

DATE: 5.8.82 TIME: 0815 local

DEGREE OF DAMAGE TO AIRCRAFT: Substantial

DEPARTURE POINT: HORSE WELLS DEPARTURE TIME: 0815

DESTINATION: HORSE WELLS

PURPOSE OF FLIGHT: Non Commercial - Business

CERTIFICATE OF REGISTRATION ISSUED TO: R. F. KITTLER
7 Cousins Road
DALWALLINU WA 6609

CREW:

NAME	ROLE	AGE	CLASS OF LICENCE	HOURS ON TYPE	HOURS TOTAL	DEGREE OF INJURY
Hugh Fergus McLEAN	Pilot	35	Commercial (Helicopter)	350	5000	Serious

PASSENGERS:

NAME	DEGREE OF INJURY
Geoffrey Alexander HART	Serious

CIRCUMSTANCES:

Shortly after departure, a loud noise was heard from the rear of the helicopter. The pilot became aware that the drive from the engine to the rotor system had failed and he commenced an autorotational descent. At about 30 ft above the ground, control was lost and the helicopter struck the ground very heavily in a level attitude. One drive belt had failed and been ingested by the cooling fan and the other three belts had become detached from the pulley.

The total rotor drive failure occurred at a height from which a successful autorotational landing was unlikely. The helicopter had been operated in dusty areas under high power loadings while mustering cattle. These operating conditions led to the pulley material being eroded rapidly and sharp ridges developed on the pulley. One drive belt was cut by the ridges and failed. The failed belt then interfered with, and dislodged, the remaining drive belts.

BUREAU OF AIR SAFETY INVESTIGATION

6 February, 1984