

## Newsletter Human Factors recurrent training – November 2015

Ref. AVIATION INVESTIGATION REPORT A13W0009 Transport Safety Board of Canada  
Full report: <http://www.tsb.gc.ca/eng/rappports-reports/aviation/2013/a13w0009/a13w0009.asp>

The Robinson R44 Raven II registration C-GOCM, serial number 10472 was being used to conduct monitoring of well sites southwest of Fox Creek, Alberta. At 13:11 Mountain Standard Time, the helicopter departed from its base of operations at the Horse Facility gas plant camp for the day's activities. After several flights, including one with a passenger, the helicopter landed at a roadside security gate, dropped off the passenger, and departed at 17:35 with only the pilot on board. The helicopter broke up in flight over a wooded area 5 minutes later. The pilot was fatally injured. There was no post-crash fire.

The helicopter had a Dart bubble window installed. The flight manual supplement for this installation limits the never-exceed speed ( $V_{NE}$ ) to 100 knots indicated airspeed with the bubble windows installed. Onboard GPS data showed that, in the minutes before the breakup, a ground speed of 127 knots was attained.

Examination of the detached rotor blade indicated a bend in the downward direction from approximately mid to outer span. Damage to the blade was consistent with overload forces as a result of downward bending, air loads, and impact with the ground. The investigation determined that the blade failed at the root, very close to the mast, in an upward direction. The other main rotor blade was shown to have struck the right side of the cabin immediately beside the pilot. It also struck the cabin on the left side above the left windshield and at the left front passenger-side upper door frame. Examination of the engine and flight controls did not reveal any system failures or abnormalities that would be considered contributory to the in-flight breakup.



Image of the main rotor blade at the accident location

On the day of the accident, many aspects of the pilot's flight planning, flying technique, and decision making were inconsistent with regulatory and administrative requirements, with the company operations manual, and with safe flying practices. These aspects included not filing a flight plan or flight itinerary, making unauthorized flights with an unauthorized passenger, exceeding allowed flight parameters, and consuming alcohol when piloting an aircraft.

The quantity of ethanol in the pilot's system was over the limit of zero for piloting an aircraft, and over 4 times the legal limit for driving an automobile. This amount of alcohol was more than sufficient to cause major impairment of judgment and performance.

Findings as to causes and contributing factors:

While piloting the helicopter under the influence of alcohol, the pilot made flight control inputs that caused the main rotor blade to contact the cabin and precipitate the in-flight breakup.

A similar accident happened in Norway involving an AS350 helicopter and police suspect the pilot being beyond the legal alcohol limit.

The abuse of alcohol or drugs is an increasing concern over the industry and is not only limited to those two pilots as there are reports of maintenance personnel involved too.

Although Part 145 does not specifically address any requirement to save against alcohol abuse, the problem can be generically addressed under 145.A.30(e) under the "human factors and human performance issues", where human performance means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

Please note that 145.A.30(e) specifically says that it is responsibility of the organisation to maintain and control the competence of personnel, including the above mentioned human factors and human performance issues.

But, even if responsibility lies into the organisation, I'll invite all members of the industry to be vigilant and to report whenever they witness any situation where alcohol or drugs may be involved. Maybe a friend is involved. Don't leave a friend alone and don't allow a friend to be the cause or the victim of an alcohol related accident.

As usual, your feedback is very important to me but more important is the use you'll do of this leaflet for discussion within your organisation.

#### DISCLAIMER

This document is not to be intended as an investigation report.

This document is only a personal and partial view of a real case as seen by the author, aimed to highlight a particular aspect of the application of human factors, useful to diffuse a just culture throughout Organisations and their employees.

You are free to download it and to submit your personal cases or your personal expectation about future discussions to: [mail@iflyaviation.aero](mailto:mail@iflyaviation.aero).

