

# FINAL REPORT

AAIU Report No: 2010-023  
State File No: IRL00909061  
Published: 15/12/2010

**In accordance with the provisions of SI 205 of 1997, the Chief Inspector of Air Accidents, on 29 July 2009, appointed Mr. Graham Liddy as the Investigator-in-Charge to carry out a Field Investigation into this Accident and prepare a Report. The sole purpose of this Investigation is the prevention of aviation Accidents and Incidents. It is not the purpose of the Investigation to apportion blame or liability.**

<b>Aircraft Type and Registration:</b>	Robinson R 44 Raven II, EI-UNI
<b>No. and Type of Engines:</b>	1 x Lycoming IO-540
<b>Aircraft Serial Number:</b>	11498
<b>Year of Manufacture:</b>	2006
<b>Date and Time (UTC):</b>	25 July 2009 @ 09:30 hrs
<b>Location:</b>	Enniskerry, Co. Wicklow, Ireland
<b>Type of Flight:</b>	Private
<b>Persons on Board:</b>	Crew - 1                  Passengers - 0
<b>Injuries:</b>	Crew - 0                  Passengers - 0
<b>Nature of Damage:</b>	Substantial
<b>Commander's Licence:</b>	PPL (H)
<b>Commander's Details:</b>	Male, aged 50 years
<b>Commander's Flying Experience:</b>	1,174 hours, of which 277 were on type
<b>Notification Source:</b>	Pilot
<b>Information Source:</b>	AAIU Pilot Report Form submitted by Pilot

## **SYNOPSIS**

The Pilot started up the rotor with the main rotor cover still in situ. As a result, the pitch change rods were damaged and this caused a main rotor blade to strike the tail-boom, puncturing it. The Report makes one Safety Recommendation.

## **1. FACTUAL INFORMATION**

### **1.1 History of the Flight**

The Pilot intended to undertake a solo local flight early on the day of the accident. Consequently he performed a daily inspection on the aircraft the previous evening. The helicopter was parked overnight in a field with two protective covers in situ, as poor weather was expected during the night. The larger main cover covered the helicopter's cabin.

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A smaller cover protected the main rotor head and rotor mast. On the day of the accident the Pilot first removed the main cover. He was just about to remove the smaller main rotor cover when he received a call on his mobile phone, which he answered. Following the call, he got into the helicopter, started the engine and then engaged the main rotor. As the main rotor commenced turning, he felt a low frequency vibration. He then remembered that he had failed to remove the cover on the main rotor. He shut down the engine and exited the aircraft.

### 1.2 Damage to the Helicopter

One of the main rotor blades had struck the tail-boom, knocking off the anti-collision light and puncturing the tail-boom.

## 2. ANALYSIS

The probable sequence of events was that as the main rotor started to rotate, the protective cover became ensnarled in the main rotor mast. As it tightened on the mast, due to the continued rotation, it damaged the main rotor pitch control rods. The deformation of the control rod caused the blade to go into negative pitch. As the speed of rotation increased, the aerodynamic forces on the blade, resulting from the negative pitch angle, caused the blade to fly lower than normal, with the result that it struck the tail-boom, damaging it.

It is fortunate that the Pilot responded appropriately, by shutting down the engine and stopping the rotor. If he had ignored the low frequency vibration and attempted to lift off, the helicopter would probable have been uncontrollable.

By taking the phone call at a critical point in his pre-flight preparations, the Pilot was distracted from the task in hand. On termination of the call, he did not ensure that all the requisite pre-flight actions had been completed.

Having taken the call, it would have been more appropriate for the Pilot to re-start his flight preparations from the beginning. This would have ensured the successful completion of all the required pre-flight items.

This accident highlights the dangers of pilots becoming distracted during their pre-flight preparations.

## 3. DISCUSSION

The risk associated with distractions arising from the use wireless devices such as mobile phones while operating a motor vehicle are well known and legislative action has been taken in this regard. This accident demonstrates that similar risks exist in aviation. It is also noted that the National Transportation Safety Board (NTSB) in the USA has recently identified similar risks in the maritime sphere.

This Investigation therefore believes that it is timely to bring such potential risks to the attention of the aviation community and makes a safety recommendation accordingly.

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### 4. CONCLUSIONS

#### (a) Findings

1. The Pilot did not complete the pre-flight preparations, critically omitting the removal of the main rotor cover.
2. The Pilot was distracted by a call on his mobile phone.

#### (b) Probable Cause

Failure to remove the main rotor cover before start-up.

#### (c) Contributory Cause

The distraction caused to the Pilot by accepting a call on his mobile phone.

### 5. SAFETY RECOMMENDATION

The Irish Aviation Authority (IAA) should issue a safety advisory to the aviation community that promotes awareness of the risks arising from the use of mobile phones in aviation, including the use of such devices in the flight preparation stage. [\(IRLD2010024\)](#)

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