

**Safety Regulation Group**  
Applications and Certification Section

11 November 2004

Our Ref 9/97/CtAw/181

**LETTER TO OWNERS/OPERATORS NO 2513 REVISION A**  
**ROBINSON R22 SERIES HELICOPTERS**  
**DETECTION OF IMPENDING BLADE FAILURE**

LTO 2513 at original issue was issued to highlight FAA Emergency Directive 2004-06-52. That AD has now been superseded by FAA AD 2004-19-09, which requires additional track and balance checks and subsequent replacement of blades found to be damaged due to water penetration.

It is still vital that any changes to the vibration characteristics of the helicopter in service be investigated in order that imminent failure is detected.

Pilots of R22 helicopters should be aware of the advice given in Robinson Safety Notice SN-39.

An increase in vibration due to a fatigue crack in a main rotor blade may not be significant initially. Relatively low-level changes in vibration levels could be an early indication of a crack, although any severe increase may be an indication of imminent failure and subsequent loss of the blade.

Pilots must be constantly aware of vibration characteristics and be alert to any change, particularly in 1xRotor Revolution (1R) and 2R levels. This includes changes in vibration levels from flight to flight as well as increases during any one flight. Vibration increases within 5 flight hours of any track and balance check is cause for particular concern. Owners/operators are advised that a track and balance check must be carried out immediately following any reported increases in vibration level.

In the event that vibration levels increase, or are considered suspect, the pilot should land immediately, as defined in Section 3 of the R22 Pilots Operating Handbook, i.e. Land on the nearest clear area where a safe normal landing can be performed, and seek advice from your Maintenance Organisation.

**Enquiries regarding this LTO should be referred to Mr. D Nicholls, Certification and Approvals Department, Floor 2E, at the address below. Telephone No 01293 573310.**

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