



**SAIB:** SW-15-08R1

**Date:** March 31, 2015

**SUBJ:** Robinson R44 and R44 Main Rotor Blades

*This is information only. Recommendations aren't mandatory.*

## **Introduction**

This Special Airworthiness Information Bulletin alerts owners and operators of **Robinson Helicopter Company Model R44 and R44 II helicopters** which have installed main rotor blades (MRBs) with part number C016-7 and **Robinson Helicopter Company Model R66** helicopters which have installed MRBs with part number F016-2 of a fatigue crack occurrence on an R44 MRB, and recommends inspection for signs of a fatigue crack on the trailing edge of the blade and modification of R44, R44 II, and R66 MRBs.

## **Background**

The FAA previously issued SAIB SW-15-08, on February 23, 2015. That SAIB recommended daily pre-flight visual check of the MRB of Robinson R44 and R44 II helicopters at the trailing edge at the corner where the blade chord begins to increase. SAIB SW-15-08 was issued after the FAA received a report from New Zealand of an in-flight failure of the MRB on a Robinson R44 II helicopter which resulted in severe main rotor vibration and difficulty in control during the subsequent emergency landing. There have been no reports of crack findings as a result of these recommended inspections and the cause of the crack has not yet been determined.

Since SAIB SW-15-08 was issued, Robinson Helicopter Company has released R44 Service Bulletin SB-89, dated March 30, 2015, and R66 Service Bulletin SB-13, dated March 30, 2015, recommending a stress concentration reduction modification of the trailing edge of the MRB including a visual inspection for fatigue cracks on the trailing edge of the blade at the corner where the blade chord begins to increase.

The trailing edge of the MRB has a corner where the blade chord begins to increase. Abrupt shape changes such as corners can concentrate stresses. The safe life limit of the affected MRBs is unchanged; however, accomplishing this modification will improve the MRB by smoothing the transition at the chord and reducing the localized stresses. At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39.

## **Recommendations**

Visually inspect the trailing edge of the main rotor blade on the upper and lower surfaces of the blade, using 10x magnification, for any damage or a fatigue crack. Check in the area shown on R44 Service Bulletin SB-89, dated March 30, 2015, and R66 Service Bulletin SB-13, dated March 30, 2015. If any damage or crack is detected, the blade should be removed from service. If no damage or crack is detected, accomplish the modification described in the service bulletins.

It is recommended to report any positive findings to the Robinson Helicopter Company. Under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the OMB has approved the information collection contained in this SAIB, and assigned OMB Control Number 2120-0731.

**For Further Information Contact**

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**For Related Service Information Contact**

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