



A Textron Company

INFORMATION LETTER

412-21-90

412CF-21-38

412RSAF-21-17

3 February 2021

TO: All owners and operators of Model 412/412EP helicopters.

SUBJECT: TAIL ROTOR BLADES 212-010-750-ALL and 412-016-100-ALL LEAK CHECK.

Bell has received reports of tail rotor blades failing the leak check required per the 412 Maintenance Manual (MM) when suspected cracks are found in the blade root end cuff area. In some cases, due to misinterpretation of the results, blades rejected due to indications of air bubbles were in fact serviceable. Figure 1 below shows some areas where cracks can be found. The cracks found in the root end cuff area are usually limited to the adhesive squeeze-out produced during manufacturing and are not necessarily an indication of a bonded joint failure.

Prior to the recent revision, the MM stated to look for a “steady stream” of bubbles originating from a single point when the blade is submerged in water. To avoid misinterpretation of the acceptance/rejection criteria published in the MM, the inspection criteria has been changed as follows:

“Check for air leaks which will be indicated by a steady stream of fine air bubbles originating from a single point at a rate exceeding one every five seconds. Occasional air bubbles is not criteria for rejection. If in doubt, contact Product Support Engineering.”

The crack repair procedure found in the MM and the 412 Component Repair and Overhaul Manual (CR&O), has also been changed. The adhesives (C-363) and (C-313) listed in the MM and the CR&O to repair cracks in the root end area are replaced by sealant (C-308). The flexibility of sealant (C-308) will allow the fine cracks to remain sealed and prevent further cracking with time in service.

This Information Letter also reminds operators of the requirement to perform a leak check per the MM if signs of delamination or cracks are found on the blade or if excessive tail rotor vibrations are reported with no apparent cause. It is also important the blade be slowly submerged in water tank and gently rotated back and forth to avoid creation of air bubbles. Moving and rotating the blade rapidly in water could cause air bubbles that can easily be misinterpreted as an air leak.

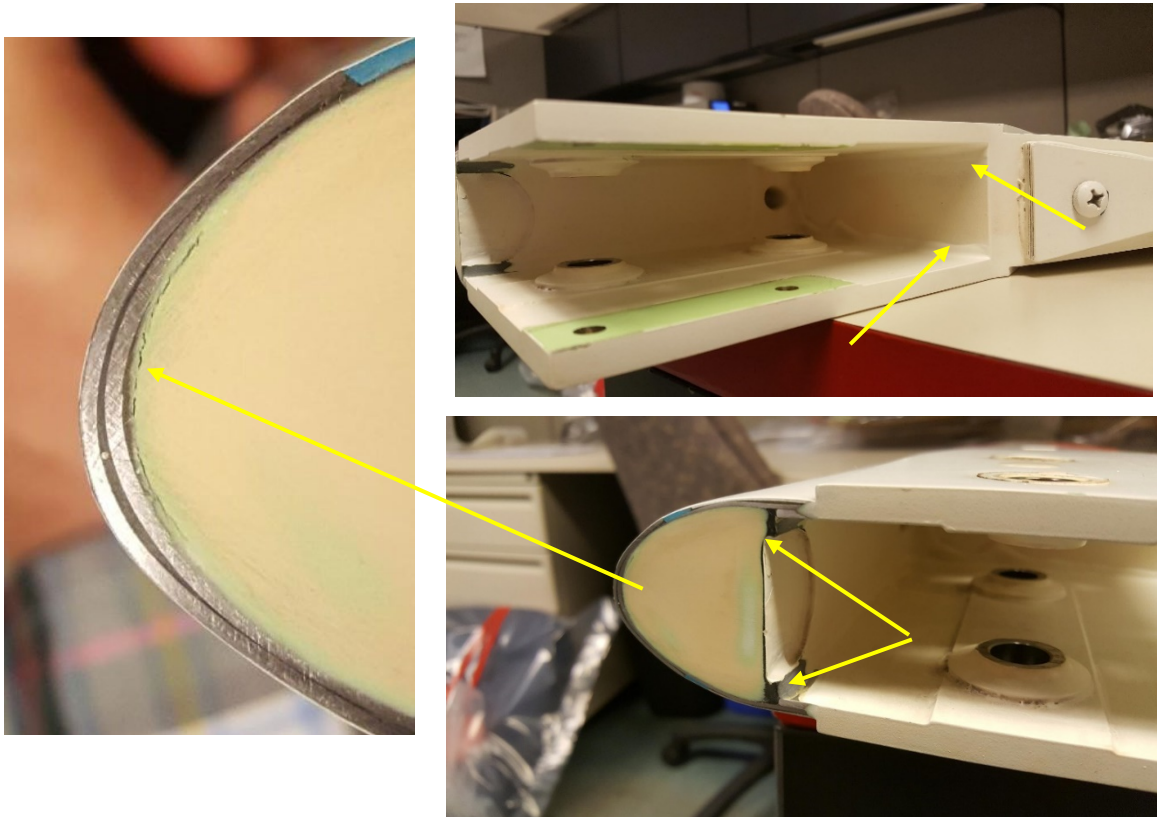


Figure 1. Areas where cracks can be found.

For any questions regarding this letter, please contact:

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