

## COMMENT RESPONSE DOCUMENT

EASA PAD No.: 25-093

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### Comment # 1

EASA issued 7 ADs to mandate the corrective and preventive action.

AD 2012-0247, AD 2013-0060, AD 2014- 0031, AD 2016-0141, AD 2017-0241, AD 2018-0188 (later revised) and 2024-0102

RR issued following service bulletins for corrective and preventive action.

Alert NMSB RB.211-72-AL191 original issue dated 30 May 2025.

RR NMSB RB.211-72-G702 original issue dated 23 May 2011 R1 dated 15 January 2013.

RR NMSB RB.211-72-G872 original issue dated 03 April 2012, revised 3 times

RR NMSB RB.211-72-H311 original issue dated 08 March 2013.

RR Alert NMSB RB.211-72-AH465 dated 15 July 2013, revised 9 times.

It seems the root cause is still not identified as the inspection technique is being revised once again. Above actions cannot even be considered corrective action where we would expect a preventive action.

Current Inspection Techniques are not adequate to detect cracks.

EASA's position to allow known cracks on rotating parts with high energy should be reviewed. Why would a rulemaker allow these critical life limited parts to operate with known defects?

The fan blades cannot demonstrate their life limit and some certification criteria (such as bird strike criteria. Has it been demonstrated on a part with known crack?)



**EASA response:**

*Comment noted: During the certification of the Trent 700, containment of a full fan blade release was demonstrated. In-service cracking observed at mid-span therefore does not present any threat of non-containment, and the fan blade was not classified as a critical part for the purpose of certification. Although radially contained, a fan blade failure remains a serious event, and EASA has worked with the manufacturer to minimise the rate of events as far as is practicable. This has resulted in a number of safety initiatives which have continually improved the manufacturing process, and the inspections ( C-Scan and Phased Array) applied to the blades, and which have reduced the event rate to well below the acceptable rate for such failures. The learning from these initiatives has been used to optimise the AD actions, resulting in many superseding ADs being published over the years.*

*The current PAD was written to react to two fan blade failure events where multiple in-service phased array inspections failed to detect the developing cracks. Investigation proved that the inspection equipment and technique were fully capable of detecting the cracks. This led the manufacturer to conclude that reducing the duration of the inspection process was the right approach to improving detection rates, and so a new NMSB has been published with reduced blade scan area. The opportunity has also been taken to prioritise certain blades for inspection, based on their inspection history.*

*No changes have been made to the Final AD in response to this comment.*

