

## Continued Airworthiness Notification to the International Community

**To:** Civil Aviation Authorities

Date: April 20, 2018

**From:** Federal Aviation Administration  
Aircraft Certification  
System Oversight Division, AIR-800  
2200 South 216th Street  
Des Moines, WA 98198

**Subject:** This message is to advise you of the FAA's ongoing activities related to The Boeing Company Model 787 airplanes powered by Rolls-Royce Trent 1000 engines.

**Situation description:** The Rolls-Royce (RR) Trent 1000 engine on the 787 has experienced airworthiness issues involving failures of Intermediate-Pressure Compressor (IPC) blades. Continued investigation of these events by RR has led them to provide the European Aviation Safety Agency (EASA) and the FAA additional insight into the IPC blade failures. Rolls Royce and Boeing are working together with the authorities to provide additional airplane operational guidance that will minimize the potential for future IPC blade failures.

**Aircraft/engine make, model, and series:** Boeing Model 787 airplanes equipped with certain RR Trent 1000 engines.

**U.S.-registered fleet:** approximately 14 airplanes; **Worldwide fleet:** approximately 262 airplanes

**Operators:** There are 21 affected operators worldwide. The largest fleets include All Nippon Airways, British Airways, LATAM Airlines Chile, Ethiopian Airlines, Norwegian, Virgin Atlantic Airways, Scoot Airlines, Air China, Avianca, Air New Zealand, Air Europa, LOT Polish Airlines, and Thai Airways.

**Ongoing activities:** On April 19, 2018, EASA issued a revised engine airworthiness directive (AD) 2018-0084R1, which allows RR Trent 1000 engines with new or refurbished blades to continue unrestricted extended operations (ETOPS) until reaching 300 flight cycles. On April 19, 2018, the FAA issued an alternative method of compliance (AMOC) for airplane AD 2018-08-03 that allows Model 787 aircraft with both engines having new or refurbished blades to continue unrestricted ETOPS until reaching 300 engine flight cycles. After 300 flight cycles the ETOPS operational restrictions of the airplane AD apply. The FAA and EASA have issued these in collaboration as complimentary AD actions. On April 20, 2018, the FAA issued an AMOC to allow use of Boeing provided revisions and corrections to figure 1 and figure 2 of the FAA airplane AD 2018-08-03. We are planning to mandate the changes allowed by this AMOC next week as described in the paragraph below via a new AD.

Based on further review of the limitations, Boeing has updated the information reflected within figure 1 and figure 2 of the FAA airplane AD 2018-08-03, and the FAA has determined it is necessary to update the FAA airplane AD 2018-08-03 accordingly. The FAA has determined that operation under the current airplane AD 2018-08-03 is adequate for safe operation until the new AD limitations are mandated. The new airplane AD will require operators to incorporate revised ETOPS limitations into the airplane flight manual, which include an updated figure 1 (Engine Appendix – Certificate Limitations) and figure 2 (Engine Appendix – Performance). The new AD would include a statement that accomplishment of the new AD actions terminates the actions in airplane AD 2018-08-03.

We expect to issue this new airworthiness action within 7 days.

For additional questions regarding this safety issue, please contact Ross Landes, AIR-780, at (206) 231-3500.

**Next update, if any:** N/A

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