

## Continued Airworthiness Notification to the International Community

**To:** Civil Aviation Authorities  
**From:** Federal Aviation Administration (FAA)  
Airworthiness Products Section, Compliance & Airworthiness Division  
AIR-721B  
1200 District Avenue  
Burlington, MA 01803

Date: July 29, 2020

**Subject:** This message is to advise you of the FAA's ongoing activities related to an in-flight shutdown (IFSD) event on a Rolls-Royce Corporation (RRC) AE 3007A1 model turbofan engine installed on an Embraer EMB-145 (trade name ERJ-145) airplane.

**Accident/ Incident Description:** This AD was prompted by an IFSD on a RRC AE 3007A1 model turbofan engine and the subsequent investigation that determined that the IFSD resulted from a low-cycle fatigue crack in the 3rd-stage compressor wheel that allowed one 3rd-stage compressor blade to release. The manufacturer's investigation identified the broaching process as the cause and parts from this manufacturing lot require removal from service. This condition, if not addressed, could result in uncontained release of the 3rd-stage compressor wheel, damage to the engine, and damage to the airplane.

**Aircraft/ Engine Make, Model and Series:** RRC AE 3007A, AE 3007A1, AE 3007A1/1, AE 3007A1/2, AE 3007A1/3, AE 3007A1E, AE 3007A1P, and AE 3007A3 model turbofan engines.

**U.S.-registered fleet:** 4 engines      **Worldwide fleet:** 17 engines

**Operators:** Envoy Air (U.S.), Loganair (U.K.), TAR Aerolineas (Mexico), Aerovision (U.S.), TAP Express (Portugal), GECAS (U.S.), Victory Air LLC (U.S.), Regional Airlines (France), Tianjin Airlines (China), National Airways (South Africa), Fly Jet.kz (Kazakhstan); AREF/ALS (Kenya).

**Ongoing activities:** The FAA is issuing an Immediately Adopted Rule airworthiness directive to require removal of affected 3rd-stage compressor wheels prior to accumulating a specific number of cycles. For engines with affected compressor wheels that have already exceeded the specified number of cycles, these compressor wheels must be replaced prior to further flight.

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