

**FAA Validation of EASA State of Design Reciprocating Aircraft Engines
 FAA Significant Standards Difference Summary List
 Per FAA-EASA Technical Validation Procedures (TIP) Revision 6**

**14 CFR Part 33 Amendment 34 compared to CS-E Amendment 6
 Dated December 9, 2020**

SSD	Subject	14 CFR Section	Remarks
1	Instructions for Continued Airworthiness (ICA)	33.4, A33.1(b), A33.3, A33.3(b), A33.4(a)(2), A33.3(c)	1) 33.4 requires ICA instructions to be complete at type certification unless a program exists to ensure their completion prior to delivery of the first aircraft with the engine installed, or upon issuance of a standard certificate of airworthiness for the aircraft with the engine installed, whichever occurs later. 2) A33.1(b) requires that each engine ICA must include ICAs for all engine parts. 3) A33.3 requires ICAs to be in the English language. 4) A33.3(b) requires an Engine Overhaul Manual or Section in the ICAs. 5) A33.4(a)(2) requires an ICA Airworthiness Limitations FAA approval statement to support FAA regulatory authority. 6) A33.3(c) Requires engine condition monitoring for ETOPS eligibility.
2	Engine ratings and operating limitations. Reciprocating engine limits	33.7(b)(6) & (8)	1) 33.7(b)(6) requires limits for accessory drive torque and overhang moment. 2) 33.7(b)(8) requires limits for turbosupercharger turbine wheel rpm.
3	Durability (Propeller Blade Pitch Control Systems)	33.19(b)	1) 33.19(b) requires each component of the propeller blade pitch control system which is a part of the engine type design to meet the requirements of Sec. 35.21, 35.23, 35.42 and 35.43.
4	Turbine, compressor, fan, and turbosupercharger rotor overspeed.	33.27	1) Turbosuperchargers must comply with 33.27, i.e. compliance with CS-E 840 turbine engine requirements plus identified Turbine Engine SSD difference.
5	Turbocharger Rotors	33.34	1) Requires that all turbocharger fragments must be contained.
6	Lubrication System	33.39(a) & (c)	1) 33.39 (a) Requires demonstration for all flight attitudes and atmospheric conditions. Demonstration for wet sumps with only one-half of the maximum lubricant supply. 2) 33.39(c) Requires crankcase venting to preclude leakage of oil from excessive pressure.
7	Vibration Test	33.43	1) 33.43(a) requires testing using the same propeller load used during the endurance test. 2) 33.43 (c) requires that all engine output shafts be loaded.
8	Endurance Test	33.49 (d)	1) 33.49 (d) requires testing for helicopter engines.

Notes:

- 1) In accordance with Title 14 Code of Federal regulations (14 CFR) 21.29 and the Technical Implementation Procedures for Airworthiness and Environmental Certification between the Federal Aviation Administration of the United States of America and the European Aviation Safety Agency of the European Union, Revision 6, Amendment 2, dated April 2, 2019, (TIP Rev 6.2), the FAA here prescribes additional requirements relative to CS-E to provide a level of safety equivalent to that provided by 14 CFR part 33.
- 2) Reference detail SSD write ups for additional information including guidance material.

Approved by:

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