[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 21

[Docket No. FAA-2022-1378]

Airworthiness Criteria: Primary Category Airworthiness Design Criteria for the ICON Aircraft Inc., Model A5-8 Airplane

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Issuance of final airworthiness criteria.

SUMMARY: The FAA announces the primary category airworthiness design criteria for type certification of the ICON Aircraft Inc., (ICON) Model A5-8 airplane.

DATES: These airworthiness criteria are effective [INSERT 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

FOR FURTHER INFORMATION CONTACT: Mr. Raymond N. Johnston, Avionics Navigation & Flight Deck Unit (AIR-626B), Avionics & Electrical Systems Section, Technical Policy Branch, Policy & Standards Division, Aircraft Certification Service, Federal Aviation Administration, 901 Locust Street, Room 301, Kansas City, MO 64106; phone (816) 329-4159, fax (816) 329-4090, email raymond.johnston@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

ICON applied to the FAA on August 3, 2020, for a primary category type certificate (TC) under 14 CFR 21.17(f) for the Model A5-B airplanes.

The ICON Model A5-B airplane consists of a Rotax 912 iS Sport piston engine certified by European Union Aviation Safety Agency (EASA TC E.121) with additional FAA validation requirements to account for differences between EASA CS-E requirements and FAA 14 CFR part 33 requirements. The ICON A5-B will utilize a Sensenich 3-blade composite propeller that

conforms with the ASTM consensus standard for propellers identified in Tables 1 and 3 of these airworthiness design criteria. The FAA does not plan to issue TCs for the engine or the propeller.

For continued operational safety (COS) requirements, the applicant would need to utilize the processes outlined in ASTM F3198-18 identified in Tables 1 and 7 of these airworthiness design criteria to develop a COS program. Some differences exist between FAA processes for COS for primary category aircraft and those outlined for LSA in ASTM F3198-18. The operational safety risk assessment information in the appendix of ASTM F3198-18 would need to be utilized by the TC holder, except notification to the FAA is required for reportable events identified in § 21.3. The FAA will then utilize a risk assessment process in determining if mandatory action is required.

Under § 21.17(c), an application for type certification is effective for three years, unless the FAA approves a longer period. Section 21.17(d) provides that, where a TC has not been issued within the time limit established under § 21.17(c), the applicant may file for an extension and update the designated applicable regulations in the type certification basis. The effective date of the applicable airworthiness requirements for the updated type certification basis must not be earlier than 3 years before the date of issue of the type certificate. Since the project was not certificated within 3 years after the application date above, the FAA approved the applicant's request to extend the application for type certification. As a result, the extended date of application for type certification is September 26, 2022.

The FAA issued a notice of proposed airworthiness criteria for the ICON Model A5-B airplane, which published in the Federal Register on August 31, 2023 (88 FR 60153).

Discussion of Comments

The FAA received no comments.

Applicability

These airworthiness criteria, established under the provisions of § 21.17(f), are applicable to the ICON Model A5-B airplane. Should ICON apply at a later date for a change to the type certificate to include another model, these airworthiness criteria would apply to that model as well, provided the FAA finds them appropriate in accordance with the requirements of subpart D to part 21.

Conclusion

This action affects only the airworthiness criteria for one model. It is not a standard of general applicability.

Authority Citation

The authority citation for these airworthiness criteria is as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, and 44704.

Airworthiness Criteria

Pursuant to the authority delegated to me by the Administrator, the following airworthiness criteria are issued as part of the type certification basis for the ICON Model A5-B airplane. The FAA finds that compliance with the following would mitigate the risks associated with the proposed design and would provide an equivalent level of safety to existing rules.

The airworthiness criteria for the issuance of a TC for the ICON Aircraft, Inc., Model A5-B airplane, a primary category airplane, and its powerplant installation is listed in Tables 1 through 8 below.

Table 1: Airplane Certification Basis

The following certification basis, established under the provisions of § 21.17(f), is appropriate for the ICON Model A5-B airplane:

Subject	Consensus Standard or Regulation	Title and Description
Primary Type Certification	Sections 21.17(f) and 21.24, both at amendment 21-100	"Designation of applicable regulations", and "Issuance of type certificate: primary category aircraft."
Aircraft Design and Performance	ASTM F2245-20	"Standard Specification for Design and "Performance of a Light Sport Airplane" as modified by Table 2 of these airworthiness design criteria.
Engine	14 CFR part 33, Amendment 33-34	The FAA will accept an engine certified by EASA to CS-E at amendment 6 that meets the additional criteria in Table 8 of these airworthiness design criteria.
Propeller	ASTM F2506-13	"Standard Specification for Design and Testing of Light Sport Aircraft Propellers" as modified by Table 3 of these airworthiness design criteria.
Noise	14 CFR part 36, Amendment 36-31	"Noise Standards: Aircraft Type and Airworthiness Certification"
Airframe Emergency Parachute	ASTM F2316-12	"Standard Specification for Airframe Emergency Parachutes" as modified by Table 4 of these airworthiness design criteria.
Airplane Flight Manual or Pilot's Operating Handbook	ASTM F2746-14 Or GAMA Specification No. 1, rev October 18, 1996	"Standard Specification for Pilot's Operating Handbook (POH) for Light Sport Aircraft" as modified by Table 5 of these airworthiness design criteria.
Maintenance Manual	ASTM F2483-18	"Standard Practice for Maintenance and the Development of Maintenance Manuals for Light Sport Aircraft" as modified by Table 6 of these airworthiness design criteria.
Continued Operational Safety (COS)	ASTM F3198-18	"Standard Specification for Light Sport Aircraft Manufacturer's Continued Operational Safety (COS) Program" as modified by Table 7 of these airworthiness design criteria.

Table 2: Modifications Applicable to ASTM F2245-20 "Standard Specifications for Design and Performance of Light Sport Aircraft"

Requirements:
Include all sections of ASTM F2245-20 except section 9.1.4.
Change section 1.1 to: "This specification covers basic airworthiness requirements for the design of a fixed-wing airplane."
Change section 1.2 to: "This specification is applicable to the design of a primary category airplane limited to two seats."

Table 3: Modifications Applicable to ASTM F2506-13 "Standard Specification for Design and Testing of Light Sport Aircraft Propellers"

Requirements:
Include all sections of ASTM F2506-13 except section 10.

Table 4: Modifications Applicable to ASTM F2316-12 "Standard Specification for Airframe Emergency Parachutes"

Requirements:
Include all sections of ASTM F2316-12 except section 12.

Table 5: Modifications Applicable to ASTM F2746-14 "Standard Specification for Pilot's Operating Handbook (POH) for Light Sport Aircraft"

Requirements:
The airplane flight manual (AFM) must comply with all sections of ASTM F2746-14, as modified by this table, except sections 1.3, 4.6, and 7, or alternatively, the airplane flight manual must comply with GAMA Specification No. 1[1] issued February 15, 1975, and revised October 18, 1996, in which case the following modifications do not apply.

In addition to ASTM F2746-14, each part of the AFM indicated below must be approved, segregated, identified, and clearly distinguished from unapproved parts:
• Chapter 2 Limitations;
• Chapter 3 Emergency Procedures;
• Chapter 5 Performance;
• Chapter 6:
  o Weight and Balance Chart (see section 6.10.1 of ASTM F2746-14);
  o Operating Weights and Loading (see section 6.10.2 of ASTM F2746-14);
  o Center of Gravity (CG) Range and Determination (see section 6.10.3 of ASTM F2746-14);
• Chapter 8:
  o Approved Fuel Grades and Specifications (see section 6.12.5.1 of ASTM F2746-14);
  o Approved Oil Grades and Specifications (see section 6.12.5.2 of ASTM F2746-14).
In addition to ASTM F2746-14, non-approved information in the AFM must be presented in a manner acceptable to the FAA.

Change section 6.4.1 of ASTM 2746-14 to: "A list of the standards used for the design, construction, continued airworthiness, and reference compliance with this standard."

[1] GAMA Specification No. 1.

Table 6: Modifications Applicable to ASTM F2483-18
"Standard Practice for Maintenance and the Development of Maintenance Manuals for Light Sport Aircraft"

Requirements:
Include all sections of ASTM F2483-18 except: • Section 3.1.7 • Section 3.1.7.1 • Section 3.1.8 • Section 4 • Note 1 in section 5 • Section 5.3.2 • Section 5.3.3 • Section 5.3.6 • Section 6.1 • Note 5 in section 6.1 • Section 8 and all subsections and notes • Section 9 and all subsections • Section 10 and all subsections • Section 11 and all subsections and notes • Section 12 and all subsections • Annex A1
In addition to ASTM F2483-18, a maintenance manual containing the information that the applicant considers essential for proper maintenance must be provided as indicated in § 21.24(a)(2)(iii).
In addition to ASTM F2483-18, the part of the manual containing service life limitations, the replacement or overhaul of parts, components, and accessories subject to such limitations must be approved, identified, and clearly distinguished from each other unapproved part of the maintenance manual.
Change section 3.1.9 to: "*maintenance manual(s)* – manual provided by the type design holder that specifies maintenance, repairs, or alterations authorized by the manufacturer."
Change section 3.1.11 to: "*manufacturer* – any entity engaged in the production of, or component used on, a type certified primary category airplane.
Change section 5.3 to: "*Level of Certification* - When listing the qualification level needed to perform a task, the type certificate holder must use the appropriate qualifications from the regulations for aircraft maintenance indicated in 14 CFR part 43, appendix A."
Change Note 4 in section 5.3.1 to: "Primary category aircraft owners may perform maintenance as outlined in part 43, appendix A."
Change section 6.2 to: "Typical tasks considered as line maintenance include:"

Table 7: Modifications Applicable to ASTM F3198-18 "Standard Specification for Light Sport Aircraft Manufacturer's Continued Operational Safety (COS) Program"

Requirement:
Include all sections of ASTM F3198-18 except: • Section 1 and all subsections • Section 5.2 and all subsections • Section 5.3 and all subsections • Section 6.1.1.3 • Section 6.1.1.4 • Section 7.7 and all subsections • Section 8.1.2.1 • Section 8.2 and all subsections • Section 10
Change section 4.1 to: "The purpose of this specification is to establish, by the manufacturer, a method by which unsafe conditions and service difficulty issues are reported, evaluated, and corrected. The type certificate holder is responsible to report failures, malfunctions or defects to the FAA as outlined in § 21.3."
Replace "manufacturer" with "type certificate holder" throughout section 7.

Table 8: FAA Validation of EASA State of Design Reciprocating Aircraft Engines

In addition to the EASA CS-E, amendment 6 requirements,[2] the following requirements from 14 CFR part 33, amendment 33-34 also apply.

Subject	14 CFR Part 33
Instructions for Continued Airworthiness (ICA)	Section 33.4, appendices A33.1(b), A33.2, A33.3(b) and (c), and A33.4(a)(2)
Engine ratings and operating limitations including reciprocating engine limits	Sections 33.7(b)(6) and (b)(8)
Durability (Propeller blade pitch control systems)	Section 33.19(b)
Turbine, compressor, fan, and turbosupercharger rotor overspeed	Section 33.27
Turbocharger rotors	Section 33.34
Lubrication system	Sections 33.39(a) and (c)
Vibration test	Sections 33.43(a) and (c)
Endurance test	Section 33.49(d)

Issued in Kansas City, Missouri on 11/20/23.

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[FR Doc. 2023-26027 Filed: 11/27/2023 8:45 am; Publication Date: 11/28/2023]

[2] CS-E, Amendment 6 – Aircraft cybersecurity.