



Number: CTSO-C27a

Date of approval: Mar 18, 2019

Approved by: Xu Chaoqun

China Civil Aviation Technical Standard Order

This China Civil Aviation Technical Standard Order (CTSO) is issued according to Part 37 of the China Civil Aviation Regulations (CCAR-37). Each CTSO is a criterion which the concerned aeronautical materials, parts or appliances used on civil aircraft must comply with when it is presented for airworthiness certification.

Twin Seaplane Floats

1. Purpose.

This China Civil Aviation Technical Standard Order (CTSO) is for manufacturers applying for Twin Seaplane Floats CTSO authorization (CTSOA). This CTSO prescribes the minimum performance standards(MPS) that Twin Seaplane Floats must first meet for approval and identification with the applicable CTSO marking.

2. Applicability.

This CTSO affects new application submitted after its effective date. Major design changes to article approved under this CTSO will require a new authorization in accordance with section 21.353 of CCAR-21R4.

3. Requirements

New models of Twin Seaplane Floats identified and manufactured on or after the effective date of this CTSO must meet the requirements in

Aerospace Industries of America, Inc., National Aerospace Standard (NAS) 807, Revision 2, Twin Seaplane Floats, dated June 30, 2017.

a. **Functionality.** This CTSO's standards apply to twin seaplane floats suitable for use on airplanes.

b. **Failure Condition Classifications.** Floats are designed and approved to a single level of certitude. As such, a failure condition classification is not required.

c. **Functional Qualification.** Materials and workmanship must conform to the requirements specified in section 3 of NAS 807, Revision 2. Functional performance must be demonstrated under the test conditions specified in section 4 of NAS 807, Revision 2. The applicant must define the design parameters to which the article is qualified (e.g., maximum airplane weight, V_{so} , etc.).

d. **Deviations.** For using alternative or equivalent means of compliance to the criteria in this CTSO, the applicant must show that the equipment maintains an equivalent level of safety. Apply for a deviation under the provision of 21.368(a) in CCAR-21R4.

4. Marking.

Mark at least one major component permanently and legibly with all the information in 21.423(b) of CCAR-21R4. The marking must include the serial number.

5. Application Data Requirements.

The applicant must furnish the responsible certification personnel with the related data to support design and production approval. The application data include a statement of conformance as specified in section 21.353(a)(1) in CCAR-21R4 and one copy each of the following technical data:

a. A Manual(s) containing the following:

(1) Operating instructions and equipment limitations sufficient to describe the equipment's operational capability.

(2) Describe in detail any deviations.

(3) Installation procedures and limitations sufficient to ensure that the twin seaplane floats, when installed according to the installation or operational procedures, still meet this CTSO's requirements. Limitations must identify any unique aspects of the installation. The limitations must include a note with the following statement:

“This article meets the minimum performance and quality control standards required by a CTSO. Installation of this article requires separate approval.”

(4) Schematic drawings, wiring diagrams, and any other documentation necessary for installation of the twin seaplane floats.

(5) List of replaceable components, by part number, that makes up the Twin Seaplane Floats. Include vendor part number cross-references,

when applicable.

b. Instructions covering periodic maintenance, calibration, and repair, for the continued airworthiness of the Twin Seaplane Floats. Include recommended inspection intervals and service life, as appropriate.

c. A drawing depicting how the article will be marked with the information required by paragraph 4 of this CTSO.

d. Identify functionality or performance contained in the article not evaluated under paragraph 3 of this CTSO (that is, non-CTSO functions). Non-CTSO functions are accepted in parallel with the CTSO authorization. For those non-CTSO functions to be accepted, the applicant must declare these functions and include the following information with CTSO application:

(1) Description of the non-CTSO function(s), such as performance specifications, failure condition classifications, software, hardware, and environmental qualification levels. Include a statement confirming that the non-CTSO function(s) don't interfere with the article's compliance with the requirements of paragraph 3.

(2) Installation procedures and limitations sufficient to ensure that the non-CTSO function(s) meets the declared functions and performance specification(s) described in paragraph 5.d.(1).

(3) Instructions for continued performance applicable to the non-CTSO function(s) described in paragraph 5.d.(1).

(4) Interface requirements and applicable installation test procedures to ensure compliance with the performance data defined in paragraph 5.d.(1).

(5) Test plans, analysis and results, as appropriate, to verify that performance of the hosting CTSO article is not affected by the non-CTSO function(s).

(6) Test plans, analysis and results, as appropriate, to verify the function and performance of the non-CTSO function(s) as described in paragraph 5.e.(1).

e. The quality system description required by section 21.358 of CCAR-21R4, including functional test specifications. The quality system should ensure that it will detect any change to the approved design that could adversely affect compliance with the CTSO MPS, and reject the article accordingly.

f. A document describing how the applicant organization complies with the provisions of section 21.335 of CCAR-21R4.

g. Material and process specifications list.

h. List of all drawings and processes (including revision level) that define the article's design.

i. Manufacturer's CTSO qualification report showing results of testing accomplished according to paragraph 3.c of this CTSO.

6. Manufacturer Data Requirements.

Besides the data given directly to the authorities, have the following technical data available for review by the authorities:

a. Functional qualification specifications for qualifying each production article to ensure compliance with this CTSO.

b. Schematic drawings.

c. Wiring diagrams.

d. Material and process specifications.

e. If the article contains non-CTSO function(s), the applicant must also make available items 6.a through 6.d as they pertain to the non-CTSO function(s).

7. Furnished Data Requirements.

a. If furnishing one or more articles manufactured under this CTSO to one entity (such as an operator or repair station), provide one copy or technical data and information specified in paragraphs 5.a and 5.b of this CTSO. Add any data needed for the proper installation, certification, use, or for continued compliance with the CTSO, of the Twin Seaplane Floats.

b. If the article contains declared non-CTSO function(s), include one copy of the data in paragraphs 5.d.(1) through 5.d.(4).

8. Availability of Referenced Documents.

Order AIA documents from:

English Translation Version for Reference Only

CAAC

CTSO-C27a

Aerospace Industries Association, 1000 Wilson Boulevard,
Suite 1700 Arlington, VA 22209-3928, USA

You may also order them online from the AIA Internet website at:

www.aia-aerospace.org.