

(b) That article is marked in accordance with part 45 of this chapter; and

(c) An export airworthiness approval has been issued in accordance with the provisions of that agreement for that article for import into the United States.

### Subpart O—Technical Standard Order Authorizations

SOURCE: Docket No. 19589, 45 FR 38346, June 9, 1980, unless otherwise noted.

EFFECTIVE DATE NOTE: By Docket No. FAA-2006-25877, 74 FR 53392, Oct. 16, 2009, subpart O of part 21 was revised, effective Apr. 14, 2010. The effective date of this revision was subsequently postponed to Apr. 16, 2011 at 75 FR 9095, Mar. 1, 2010. For the convenience of the user, the new subpart O follows the text of this subpart.

#### § 21.601 Applicability.

(a) This subpart prescribes—

(1) Procedural requirements for the issue of Technical Standard Order authorizations;

(2) Rules governing the holders of Technical Standard Order authorizations; and

(3) Procedural requirements for the issuance of a letter of Technical Standard Order design approval.

(b) For the purpose of this subpart—

(1) A Technical Standard Order (referred to in this subpart as “TSO”) is issued by the Administrator and is a minimum performance standard for specified articles (for the purpose of this subpart, articles means materials, parts, processes, or appliances) used on civil aircraft.

(2) A TSO authorization is an FAA design and production approval issued to the manufacturer of an article which has been found to meet a specific TSO.

(3) A letter of TSO design approval is an FAA design approval for a foreign-manufactured article which has been found to meet a specific TSO in accordance with the procedures of § 21.617.

(4) An article manufactured under a TSO authorization, an FAA letter of acceptance as described in § 21.603(b), or an appliance manufactured under a letter of TSO design approval described in § 21.617 is an approved article or appliance for the purpose of meeting the

regulations of this chapter that require the article to be approved.

(5) An article manufacturer is the person who controls the design and quality of the article produced (or to be produced, in the case of an application), including the parts of them and any processes or services related to them that are procured from an outside source.

(c) The Administrator does not issue a TSO authorization if the manufacturing facilities for the product are located outside of the United States, unless the Administrator finds that the location of the manufacturer’s facilities places no undue burden on the FAA in administering applicable airworthiness requirements.

#### § 21.603 TSO marking and privileges.

(a) Except as provided in paragraph (b) of this section and § 21.617(c), no person may identify an article with a TSO marking unless that person holds a TSO authorization and the article meets applicable TSO performance standards.

(b) The holder of an FAA letter of acceptance of a statement of conformance issued for an article before July 1, 1962, or any TSO authorization issued after July 1, 1962, may continue to manufacture that article without obtaining a new TSO authorization but shall comply with the requirements of §§ 21.3, 21.607 through 21.615, 21.619, and 21.621.

(c) Notwithstanding paragraphs (a) and (b) of this section, after August 6, 1976, no person may identify or mark an article with any of the following TSO numbers:

- (1) TSO-C18, -C18a, -C18b, -C18c.
- (2) TSO-C24.
- (3) TSO-C33.
- (4) TSO-C61 or -C61a.

#### § 21.605 Application and issue.

(a) The manufacturer (or an authorized agent) shall submit an application for a TSO authorization, together with the following documents, to the Manager of the Aircraft Certification Office for the geographic area in which the applicant is located:

(1) A statement of conformance certifying that the applicant has met the requirements of this subpart and that

## § 21.607

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the article concerned meets the applicable TSO that is effective on the date of application for that article.

(2) One copy of the technical data required in the applicable TSO.

(3) A description of its quality control system in the detail specified in § 21.143. In complying with this section, the applicant may refer to current quality control data filed with the FAA as part of a previous TSO authorization application.

(b) When a series of minor changes in accordance with § 21.611 is anticipated, the applicant may set forth in its application the basic model number of the article and the part number of the components with open brackets after it to denote that suffix change letters or numbers (or combinations of them) will be added from time to time.

(c) After receiving the application and other documents required by paragraph (a) of this section to substantiate compliance with this part, and after a determination has been made of its ability to produce duplicate articles under this part, the Administrator issues a TSO authorization (including all TSO deviations granted to the applicant) to the applicant to identify the article with the applicable TSO marking.

(d) If the application is deficient, the applicant must, when requested by the Administrator, submit any additional information necessary to show compliance with this part. If the applicant fails to submit the additional information within 30 days after the Administrator's request, the application is denied and the applicant is so notified.

(e) The Administrator issues or denies the application within 30 days after its receipt or, if additional information has been requested, within 30 days after receiving that information.

[Doc. No. 19589, 45 FR 38346, June 9, 1980, as amended by Amdt. 21–67, 54 FR 39291, Sept. 25, 1989]

### § 21.607 General rules governing holders of TSO authorizations.

Each manufacturer of an article for which a TSO authorization has been issued under this part shall—

(a) Manufacture the article in accordance with this part and the applicable TSO;

(b) Conduct all required tests and inspections and establish and maintain a quality control system adequate to ensure that the article meets the requirements of paragraph (a) of this section and is in condition for safe operation;

(c) Prepare and maintain, for each model of each article for which a TSO authorization has been issued, a current file of complete technical data and records in accordance with § 21.613; and

(d) Permanently and legibly mark each article to which this section applies with the following information:

(1) The name and address of the manufacturer.

(2) The name, type, part number, or model designation of the article.

(3) The serial number or the date of manufacture of the article or both.

(4) The applicable TSO number.

### § 21.609 Approval for deviation.

(a) Each manufacturer who requests approval to deviate from any performance standard of a TSO shall show that the standards from which a deviation is requested are compensated for by factors or design features providing an equivalent level of safety.

(b) The request for approval to deviate, together with all pertinent data, must be submitted to the Manager of the Aircraft Certification Office for the geographic area in which the manufacturer is located. If the article is manufactured in another country, the request for approval to deviate, together with all pertinent data, must be submitted through the civil aviation authority in that country to the FAA.

[Doc. No. 19589, 45 FR 38346, June 9, 1980, as amended by Amdt. 21–67, 54 FR 39291, Sept. 25, 1989]

### § 21.611 Design changes.

(a) *Minor changes by the manufacturer holding a TSO authorization.* The manufacturer of an article under an authorization issued under this part may make minor design changes (any change other than a major change) without further approval by the Administrator. In this case, the changed article keeps the original model number (part numbers may be used to identify minor changes) and the manufacturer shall forward to the appropriate

Aircraft Certification Office for the geographic area, any revised data that are necessary for compliance with § 21.605(b).

(b) *Major changes by manufacturer holding a TSO authorization.* Any design change by the manufacturer that is extensive enough to require a substantially complete investigation to determine compliance with a TSO is a major change. Before making such a change, the manufacturer shall assign a new type or model designation to the article and apply for an authorization under § 21.605.

(c) *Changes by person other than manufacturer.* No design change by any person (other than the manufacturer who submitted the statement of conformance for the article) is eligible for approval under this part unless the person seeking the approval is a manufacturer and applies under § 21.605(a) for a separate TSO authorization. Persons other than a manufacturer may obtain approval for design changes under Part 43 or under the applicable airworthiness regulations.

[Doc. No. 19589, 45 FR 38346, June 9, 1980, as amended by Amdt. 21-67, 54 FR 39291, Sept. 25, 1989]

#### § 21.613 Recordkeeping requirements.

(a) *Keeping the records.* Each manufacturer holding a TSO authorization under this part shall, for each article manufactured under that authorization, keep the following records at its factory:

(1) A complete and current technical data file for each type or model article, including design drawings and specifications.

(2) Complete and current inspection records showing that all inspections and tests required to ensure compliance with this part have been properly completed and documented.

(b) *Retention of records.* The manufacturer shall retain the records described in paragraph (a)(1) of this section until it no longer manufactures the article. At that time, copies of these records shall be sent to the Administrator. The manufacturer shall retain the records described in paragraph (a)(2) of this section for a period of at least 2 years.

#### § 21.615 FAA inspection.

Upon the request of the Administrator, each manufacturer of an article under a TSO authorization shall allow the Administrator to—

(a) Inspect any article manufactured under that authorization;

(b) Inspect the manufacturer's quality control system;

(c) Witness any tests;

(d) Inspect the manufacturing facilities; and

(e) Inspect the technical data files on that article.

#### § 21.617 Issue of letters of TSO design approval: import appliances.

(a) A letter of TSO design approval may be issued for an appliance that is manufactured in a foreign country with which the United States has an agreement for the acceptance of these appliances for export and import and that is to be imported into the United States if—

(1) The country in which the appliance was manufactured certifies that the appliance has been examined, tested, and found to meet the applicable TSO designated in § 21.305(b) or the applicable performance standards of the country in which the appliance was manufactured and any other performance standards the Administrator may prescribe to provide a level of safety equivalent to that provided by the TSO designated in § 21.305(b); and

(2) The manufacturer has submitted one copy of the technical data required in the applicable performance standard through its civil aviation authority.

(b) The letter of TSO design approval will be issued by the Administrator and must list any deviation granted to the manufacturer under § 21.609.

(c) After the Administrator has issued a letter of TSO design approval and the country of manufacture issues a Certificate of Airworthiness for Export as specified in § 21.502(a), the manufacturer shall be authorized to identify the appliance with the TSO marking requirements described in § 21.607(d) and in the applicable TSO. Each appliance must be accompanied by a Certificate of Airworthiness for Export as specified in § 21.502(a) issued by the country of manufacture.

## § 21.619

### § 21.619 Noncompliance.

The Administrator may, upon notice, withdraw the TSO authorization or letter of TSO design approval of any manufacturer who identifies with a TSO marking an article not meeting the performance standards of the applicable TSO.

### § 21.621 Transferability and duration.

A TSO authorization or letter of TSO design approval issued under this part is not transferable and is effective until surrendered, withdrawn, or otherwise terminated by the Administrator.

EFFECTIVE DATE NOTE: By Amtd. No. 21-92, 74 FR 53392, Oct. 16, 2009, § 21.621 was revised, effective Apr. 14, 2010. The section heading for § 21.621 was subsequently revised, effective Apr. 16, 2011 at 75 FR 9095, Mar. 1, 2010. For the convenience of the user, the revised text is set forth as follows:

### § 21.621 Issue of letters of TSO design approval: Import articles.

EFFECTIVE DATE NOTE: By Docket No. FAA-2006-25877, 74 FR 53392, Oct. 16, 2009, subpart O of part 21 was revised, effective Apr. 14, 2010. The effective date of this revision was subsequently postponed to Apr. 16, 2011 at 75 FR 9095, Mar. 1, 2010. For the convenience of the user, the revised text is set forth as follows:

## Subpart O—Technical Standard Order Approvals

### § 21.601 Applicability and definitions.

- (a) This subpart prescribes—
- (1) Procedural requirements for issuing TSO authorizations;
  - (2) Rules governing the holders of TSO authorizations; and
  - (3) Procedural requirements for issuing letters of TSO design approval.
- (b) For the purposes of this subpart—
- (1) A TSO issued by the FAA is a minimum performance standard for specified articles used on civil aircraft;
  - (2) A TSO authorization is an FAA design and production approval issued to the manufacturer of an article that has been found to meet a specific TSO;
  - (3) A letter of TSO design approval is an FAA design approval for an article that has been found to meet a specific TSO in accordance with the procedures of § 21.621;
  - (4) An article manufactured under a TSO authorization, an FAA letter of acceptance as described in § 21.613(b), or an article manufactured under a letter of TSO design approval described in § 21.621 is an approved article for the purpose of meeting the regula-

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tions of this chapter that require the article to be approved; and

- (5) An article manufacturer is the person who controls the design and quality of the article produced (or to be produced, in the case of an application), including any related parts, processes, or services procured from an outside source.

### § 21.603 Application.

(a) An applicant for a TSO authorization must apply to the appropriate aircraft certification office in the form and manner prescribed by the FAA. The applicant must include the following documents in the application:

- (1) A statement of conformance certifying that the applicant has met the requirements of this subpart and that the article concerned meets the applicable TSO that is effective on the date of application for that article.
- (2) One copy of the technical data required in the applicable TSO.

(b) If the applicant anticipates a series of minor changes in accordance with § 21.619, the applicant may set forth in its application the basic model number of the article and the part number of the components with open brackets after it to denote that suffix change letters or numbers (or combinations of them) will be added from time to time.

(c) If the application is deficient, the applicant must, when requested by the FAA, provide any additional information necessary to show compliance with this part. If the applicant fails to provide the additional information within 30 days after the FAA's request, the FAA denies the application and notifies the applicant.

### § 21.605 Organization.

Each applicant for or holder of a TSO authorization must provide the FAA with a document describing how the applicant's organization will ensure compliance with the provisions of this subpart. At a minimum, the document must describe assigned responsibilities and delegated authority, and the functional relationship of those responsible for quality to management and other organizational components.

### § 21.607 Quality system.

Each applicant for or holder of a TSO authorization must establish a quality system that meets the requirements of § 21.137.

### § 21.608 Quality manual.

Each applicant for or holder of a TSO authorization must provide a manual describing its quality system to the FAA for approval. The manual must be in the English language and retrievable in a form acceptable to the FAA.

**§ 21.609 Location of or change to manufacturing facilities.**

(a) An applicant may obtain a TSO authorization for manufacturing facilities located outside of the United States if the FAA finds no undue burden in administering the applicable requirements of Title 49 U.S.C. and this subchapter.

(b) The TSO authorization holder must obtain FAA approval before making any changes to the location of any of its manufacturing facilities.

(c) The TSO authorization holder must immediately notify the FAA, in writing, of any change to the manufacturing facilities that may affect the inspection, conformity, or airworthiness of its product or article.

**§ 21.610 Inspections and tests.**

Each applicant for or holder of a TSO authorization must allow the FAA to inspect its quality system, facilities, technical data, and any manufactured articles and witness any tests, including any inspections or tests at a supplier facility, necessary to determine compliance with this subchapter.

**§ 21.611 Issuance.**

If the FAA finds that the applicant complies with the requirements of this subchapter, the FAA issues a TSO authorization to the applicant (including all TSO deviations granted to the applicant).

**§ 21.613 Duration.**

(a) A TSO authorization or letter of TSO design approval is effective until surrendered, withdrawn, or otherwise terminated by the FAA.

(b) If a TSO is revised or canceled, the holder of an affected FAA letter of acceptance of a statement of conformance, TSO authorization, or letter of TSO design approval may continue to manufacture articles that meet the original TSO without obtaining a new acceptance, authorization, or approval but must comply with the requirements of this chapter.

**§ 21.614 Transferability.**

The holder of a TSO authorization or letter of TSO design approval may not transfer the TSO authorization or letter of TSO design approval.

**§ 21.616 Responsibility of holder.**

Each holder of a TSO authorization must—

(a) Amend the document required by § 21.605 as necessary to reflect changes in the organization and provide these amendments to the FAA.

(b) Maintain a quality system in compliance with the data and procedures approved for the TSO authorization;

(c) Ensure that each manufactured article conforms to its approved design, is in a con-

dition for safe operation, and meets the applicable TSO;

(d) Mark the TSO article for which an approval has been issued. Marking must be in accordance with part 45 of this chapter, including any critical parts;

(e) Identify any portion of the TSO article (e.g., sub-assemblies, component parts, or replacement articles) that leave the manufacturer's facility as FAA approved with the manufacturer's part number and name, trademark, symbol, or other FAA approved manufacturer's identification;

(f) Have access to design data necessary to determine conformity and airworthiness for each article produced under the TSO authorization. The manufacturer must retain this data until it no longer manufactures the article. At that time, copies of the data must be sent to the FAA;

(g) Retain its TSO authorization and make it available to the FAA upon request; and

(h) Make available to the FAA information regarding all delegation of authority to suppliers.

**§ 21.618 Approval for deviation.**

(a) Each manufacturer who requests approval to deviate from any performance standard of a TSO must show that factors or design features providing an equivalent level of safety compensate for the standards from which a deviation is requested.

(b) The manufacturer must send requests for approval to deviate, together with all pertinent data, to the appropriate aircraft certification office. If the article is manufactured under the authority of a foreign country or jurisdiction, the manufacturer must send requests for approval to deviate, together with all pertinent data, through the civil aviation authority of that country or jurisdiction to the FAA.

**§ 21.619 Design changes.**

(a) *Minor changes by the manufacturer holding a TSO authorization.* The manufacturer of an article under an authorization issued under this part may make minor design changes (any change other than a major change) without further approval by the FAA. In this case, the changed article keeps the original model number (part numbers may be used to identify minor changes) and the manufacturer must forward to the appropriate aircraft certification office, any revised data that are necessary for compliance with § 21.603(b).

(b) *Major changes by the manufacturer holding a TSO authorization.* Any design change by the manufacturer extensive enough to require a substantially complete investigation to determine compliance with a TSO is a major change. Before making a major change, the manufacturer must assign a new type or model designation to the article and apply for an authorization under § 21.603.

(c) *Changes by persons other than the manufacturer.* No design change by any person (other than the manufacturer who provided the statement of conformance for the article) is eligible for approval under this part unless the person seeking the approval is a manufacturer and applies under §21.603(a) for a separate TSO authorization. Persons other than a manufacturer may obtain approval for design changes under part 43 or under the applicable airworthiness regulations of this chapter.

**§21.620 Changes in quality system.**

After the issuance of a TSO authorization—

(a) Each change to the quality system is subject to review by the FAA; and

(b) The holder of the TSO authorization must immediately notify the FAA, in writing, of any change that may affect the inspection, conformity, or airworthiness of its article.

**§21.621 Issuance of letters of TSO design approval: import articles.**

(a) The FAA may issue a letter of TSO design approval for an article—

(1) Designed and manufactured in a foreign country or jurisdiction subject to the export provisions of an agreement with the United States for the acceptance of these articles for import; and

(2) For import into the United States if—

(i) The State of Design certifies that the article has been examined, tested, and found to meet the applicable TSO or the applicable performance standards of the State of Design and any other performance standards the FAA may prescribe to provide a level of safety equivalent to that provided by the TSO; and

(ii) The manufacturer has provided to the FAA one copy of the technical data required in the applicable performance standard through its State of Design.

(b) The FAA issues the letter of TSO design approval that lists any deviation granted under §21.618.

**PART 23—AIRWORTHINESS STANDARDS: NORMAL, UTILITY, ACROBATIC, AND COMMUTER CATEGORY AIRPLANES**

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