

- (2) Bombardier CL-44
- (3) Mitsubishi YS-11
- (4) British Aerospace BAC 1-11
- (5) Concorde
- (6) deHavilland D.H. 106 Comet 4C
- (7) VFW—Vereinigte Flugtechnische Werk VFW-614
- (8) Ilyushin Aviation IL 96T
- (9) Bristol Aircraft Britannia 305
- (10) Handley Page Herald Type 300
- (11) Avions Marcel Dassault—Breguet Aviation Mercure 100C
- (12) Airbus Caravelle
- (13) Lockheed L-300

[Amdt. No. 26-0, 72 FR 63409, Nov. 8, 2007; 72 FR 68618, Dec. 5, 2007]

### Subparts C–D [Reserved]

### Subpart E—Aging Airplane Safety— Damage Tolerance Data for Repairs and Alterations

SOURCE: 72 FR 70505, Dec. 12, 2007, unless otherwise noted.

EFFECTIVE DATE NOTE: At 72 FR 70505, Dec. 12, 2007, Subpart E was added to Part 26, effective January 11, 2008.

#### § 26.41 Definitions.

*Affects (or Affected)* means structure has been physically repaired, altered, or modified, or the structural loads acting on the structure have been increased or redistributed.

*Baseline structure* means structure that is designed under the original type certificate or amended type certificate for that airplane model.

*Damage Tolerance Evaluation (DTE)* means a process that leads to a determination of maintenance actions necessary to detect or preclude fatigue cracking that could contribute to a catastrophic failure. As applied to repairs and alterations, a DTE includes the evaluation both of the repair or alteration and of the fatigue critical structure affected by the repair or alteration.

*Damage Tolerance Inspection (DTI)* means the inspection developed as a result of a DTE. A DTI includes the areas to be inspected, the inspection method, the inspection procedures, including acceptance and rejection criteria, the threshold, and any repeat intervals associated with those inspections. The

DTI may specify a time limit when a repair or alteration needs to be replaced or modified. If the DTE concludes that DT-based supplemental structural inspections are not necessary, the DTI contains a statement to that effect.

*DT data* mean DTE documentation and the DTI.

*DTE documentation* means data that identify the evaluated fatigue critical structure, the basic assumptions applied in a DTE, and the results of a DTE.

*Fatigue critical structure* means airplane structure that is susceptible to fatigue cracking that could contribute to a catastrophic failure, as determined in accordance with § 25.571 of this chapter. Fatigue critical structure includes structure, which, if repaired or altered, could be susceptible to fatigue cracking and contribute to a catastrophic failure. Such structure may be part of the baseline structure or part of an alteration.

*Implementation schedule* consists of documentation that establishes the timing for accomplishing the necessary actions for developing DT data for repairs and alterations, and for incorporating those data into an operator's continuing airworthiness maintenance program. The documentation must identify times when actions must be taken as specific numbers of airplane flight hours, flight cycles, or both.

*Published repair data* mean instructions for accomplishing repairs, which are published for general use in structural repair manuals and service bulletins (or equivalent types of documents).

#### § 26.43 Holders of and applicants for type certificates—Repairs.

(a) *Applicability*. Except as specified in paragraph (g) of this section, this section applies to transport category, turbine powered airplane models with a type certificate issued after January 1, 1958, that as a result of original type certification or later increase in capacity have—

- (1) A maximum type certificated passenger seating capacity of 30 or more; or
- (2) A maximum payload capacity of 7,500 pounds or more.

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(b) *List of fatigue critical baseline structure.* For airplanes specified in paragraph (a) of this section, the holder of or applicant for a type certificate must—

(1) Identify fatigue critical baseline structure for all airplane model variations and derivatives approved under the type certificate; and

(2) Develop and submit to the FAA Oversight Office for review and approval, a list of the structure identified under paragraph (b)(1) of this section and, upon approval, make the list available to persons required to comply with § 26.47 and §§ 121.1109 and 129.109 of this chapter.

(c) *Existing and future published repair data.* For repair data published by a holder of a type certificate that is current as of January 11, 2008 and for all later published repair data, the holder of a type certificate must—

(1) Review the repair data and identify each repair specified in the data that affects fatigue critical baseline structure identified under paragraph (b)(1) of this section;

(2) Perform a DTE and develop the DTI for each repair identified under paragraph (c)(1) of this section, unless previously accomplished;

(3) Submit the DT data to the FAA Oversight Office or its properly authorized designees for review and approval; and

(4) Upon approval, make the DTI available to persons required to comply with §§ 121.1109 and 129.109 of this chapter.

(d) *Future repair data not published.* For repair data developed by a holder of a type certificate that are approved after January 11, 2008 and are not published, the type certificate holder must accomplish the following for repairs specified in the repair data that affect fatigue critical baseline structure:

(1) Perform a DTE and develop the DTI.

(2) Submit the DT data required in paragraph (d)(1) of this section for review and approval by the FAA Oversight Office or its properly authorized designees.

(3) Upon approval, make the approved DTI available to persons required to comply with §§ 121.1109 and 129.109 of this chapter.

(e) *Repair Evaluation Guidelines.* The holder of a type certificate for each airplane model subject to this section must—

(1) Develop repair evaluation guidelines for operators' use that include—

(i) A process for conducting surveys of affected airplanes that will enable identification and documentation of all existing repairs that affect fatigue critical baseline structure identified under paragraph (b)(1) of this section and § 26.45(b)(2);

(ii) A process that will enable operators to obtain the DTI for repairs identified under paragraph (e)(1)(i) of this section; and

(iii) An implementation schedule for repairs covered by the repair evaluation guidelines. The implementation schedule must identify times when actions must be taken as specific numbers of airplane flight hours, flight cycles, or both.

(2) Submit the repair evaluation guidelines to the FAA Oversight Office for review and approval.

(3) Upon approval, make the guidelines available to persons required to comply with §§ 121.1109 and 129.109 of this chapter.

(4) If the guidelines direct the operator to obtain assistance from the holder of a type certificate, make such assistance available in accordance with the implementation schedule.

(f) *Compliance times.* Holders of type certificates must submit the following to the FAA Oversight Office or its properly authorized designees for review and approval by the specified compliance time:

(1) The identified list of fatigue critical baseline structure required by paragraph (b)(2) of this section must be submitted no later than 180 days after January 11, 2008 or before issuance of the type certificate, whichever occurs later.

(2) For published repair data that are current as of January 11, 2008, the DT data required by paragraph (c)(3) of this section must be submitted by June 30, 2009.

(3) For repair data published after January 11, 2008, the DT data required by paragraph (c)(3) of this section must be submitted before FAA approval of the repair data.

(4) For unpublished repair data developed after January 11, 2008, the DT data required by paragraph (d)(1) of this section must be submitted within 12 months of the airplane's return to service or in accordance with a schedule approved by the FAA Oversight Office.

(5) The repair evaluation guidelines required by paragraph (e)(1) of this section must be submitted by December 30, 2009.

(g) *Exceptions.* The requirements of this section do not apply to the following transport category airplane models:

(1) Convair CV-240, 340, 440, if modified to include turbine engines.

(2) Vickers Armstrong Viscount, TCDS No. A-814.

(3) Douglas DC-3, if modified to include turbine engines, TCDS No. A-618.

(4) Bombardier CL-44, TCDS No. 1A20.

(5) Mitsubishi YS-11, TCDS No. A1PC.

(6) British Aerospace BAC 1-11, TCDS No. A5EU.

(7) Concorde, TCDS No. A45EU.

(8) deHavilland D.H. 106 Comet 4C, TCDS No. 7A10.

(9) deHavilland DHC-7, TCDS No. A20EA.

(10) VFW-Vereinigte Flugtechnische Werk VFW-614, TCDS No. A39EU.

(11) Ilyushin Aviation IL 96T, TCDS No. A54NM.

(12) Bristol Aircraft Britannia 305, TCDS No. 7A2.

(13) Handley Page Herald Type 300, TCDS No. A21N.

(14) Avions Marcel Dassault-Breguet Aviation Mercure 100C, TCDS No. A40EU.

(15) Airbus Caravelle, TCDS No. 7A6.

(16) Lockheed L-300, TCDS No. A2S0.

(17) Boeing 707-100/-200, TCDS No. 4A21.

(18) Boeing 707-300/-400, TCDS No. 4A26.

(19) Boeing 720, TCDS No. 4A28.

**§ 26.45 Holders of type certificates—Alterations and repairs to alterations.**

(a) *Applicability.* This section applies to transport category airplanes subject to § 26.43.

(b) *Fatigue critical alteration structure.* For existing and future alteration data

developed by the holder of a type certificate, the holder must—

(1) Review existing alteration data and identify all alterations that affect fatigue critical baseline structure identified under § 26.43(b)(1);

(2) For each alteration identified under paragraph (b)(1) of this section, identify any fatigue critical alteration structure;

(3) Develop and submit to the FAA Oversight Office for review and approval a list of the structure identified under paragraph (b)(2) of this section; and

(4) Upon approval, make the list required in paragraph (b)(3) of this section available to persons required to comply with §§ 121.1109 and 129.109 of this chapter.

(c) *DT Data.* For existing and future alteration data developed by the holder of a type certificate that affect fatigue critical baseline structure identified under § 26.43(b)(1), unless previously accomplished, the holder must—

(1) Perform a DTE and develop the DTI for the alteration and fatigue critical baseline structure that is affected by the alteration;

(2) Submit the DT data developed in accordance with paragraphs (c)(1) of this section to the FAA Oversight Office or its properly authorized designees for review and approval; and

(3) Upon approval, make the DTI available to persons required to comply with §§ 121.1109 and 129.109 of this chapter.

(d) *DT Data for Repairs Made to Alterations.* For existing and future repair data developed by a holder of a type certificate, the type certificate holder must—

(1) Review the repair data, and identify each repair that affects any fatigue critical alteration structure identified under paragraph (b)(2) of this section;

(2) For each repair identified under paragraph (d)(1) of this section, unless previously accomplished, perform a DTE and develop DTI;

(3) Submit the DT data developed in accordance with paragraph (d)(2) of this section to the FAA Oversight Office or its properly authorized designees for review and approval; and