

14 CFR Part 26

Subpart C—Aging Airplane Safety—Widespread Fatigue Damage

§ 26.21 Limit of validity.

(a) *Applicability.* Except as provided in paragraph (g) of this section, this section applies to transport category, turbine-powered airplanes with a maximum takeoff gross weight greater than 75,000 pounds and a type certificate issued after January 1, 1958, regardless of whether the maximum takeoff gross weight is a result of an original type certificate or a later design change. This section also applies to transport category, turbine-powered airplanes with a type certificate issued after January 1, 1958, if a design change approval for which application is made after January 14, 2011 has the effect of reducing the maximum takeoff gross weight from greater than 75,000 pounds to 75,000 pounds or less.

(b) *Limit of validity.* Each person identified in paragraph (c) of this section must comply with the following requirements:

(1) Establish a limit of validity of the engineering data that supports the structural maintenance program (hereafter referred to as LOV) that corresponds to the period of time, stated as a number of total accumulated flight cycles or flight hours or both, during which it is demonstrated that widespread fatigue damage will not occur in the airplane. This demonstration must include an evaluation of airplane structural configurations and be supported by test evidence and analysis at a minimum and, if available, service experience, or service experience and teardown inspection results, of high-time airplanes of similar structural design, accounting for differences in operating conditions and procedures. The airplane structural configurations to be evaluated include—

(i) All model variations and derivatives approved under the type certificate; and

(ii) All structural modifications to and replacements for the airplane structural configurations specified in paragraph (b)(1)(i) of this section, mandated by airworthiness directives as of January 14, 2011.

(2) If the LOV depends on performance of maintenance actions for which service information has not been mandated by airworthiness directive as of January 14, 2011, submit the following to the FAA Oversight Office:

(i) For those maintenance actions for which service information has been issued as of the applicable compliance date specified in paragraph (c) of this section, a list identifying each of those actions.

(ii) For those maintenance actions for which service information has not been issued as of the applicable compliance date specified in paragraph (c) of this section, a list identifying each of those actions and a binding schedule for providing in a timely manner the necessary service information for those actions. Once the FAA Oversight Office approves this schedule, each person identified in paragraph (c) of this section must comply with that schedule.

(3) Unless previously accomplished, establish an Airworthiness Limitations section (ALS) for each airplane structural configuration evaluated under paragraph (b)(1) of this section.

(4) Incorporate the applicable LOV established under paragraph (b)(1) of this section into the ALS for each airplane structural configuration evaluated under paragraph (b)(1) and submit it to the FAA Oversight Office for approval.

(c) *Persons who must comply and compliance dates.* The following persons must comply with the requirements of paragraph (b) of this section by the specified date.

(1) Holders of type certificates (TC) of airplane models identified in Table 1 of this section: No later than the applicable date identified in Table 1 of this section.

(2) Applicants for TCs, if the date of application was before January 14, 2011: No later than the latest of the following dates:

(i) January 14, 2016;

(ii) The date the certificate is issued; or

(iii) The date specified in the plan approved under § 25.571(b) for completion of the full-scale fatigue testing and demonstrating that widespread fatigue damage will not occur in the airplane structure.

(3) Applicants for amendments to TCs, with the exception of amendments to TCs specified in paragraphs (c)(6) or (c)(7) of this section, if the original TC was issued before January 14, 2011: No later than the latest of the following dates:

(i) January 14, 2016;

(ii) The date the amended certificate is issued; or

(iii) The date specified in the plan approved under § 25.571(b) for completion of the full-scale fatigue testing and demonstrating that widespread fatigue damage will not occur in the airplane structure.

(4) Applicants for amendments to TCs, with the exception of amendments to TCs specified in paragraphs (c)(6) or (c)(7) of this section, if the application for the original TC was made before January 14, 2011 but the TC was not issued before January 14, 2011: No later than the latest of the following dates:

(i) January 14, 2016;

(ii) The date the amended certificate is issued; or

(iii) The date specified in the plan approved under § 25.571(b) for completion of the full-scale fatigue testing and demonstrating that widespread fatigue damage will not occur in the airplane structure.

(5) Holders of either supplemental type certificates (STCs) or amendments to TCs that increase maximum takeoff gross weights from 75,000 pounds or less to greater than 75,000 pounds: No later than July 14, 2012.

(6) Applicants for either STCs or amendments to TCs that increase maximum takeoff gross weights from 75,000 pounds or less to greater than 75,000 pounds: No later than the latest of the following dates:

(i) July 14, 2012;

(ii) The date the certificate is issued; or

(iii) The date specified in the plan approved under § 25.571(b) for completion of the full-scale fatigue testing and demonstrating that widespread fatigue damage will not occur in the airplane structure.

(7) Applicants for either STCs or amendments to TCs that decrease maximum takeoff gross weights from greater than 75,000 pounds to 75,000 pounds or less, if the date of application was after January 14, 2011: No later than the latest of the following dates:

(i) July 14, 2012;

(ii) The date the certificate is issued; or

(iii) The date specified in the plan approved under § 25.571(b) for completion of the full-scale fatigue testing and demonstrating that widespread fatigue damage will not occur in the airplane structure.

(d) *Compliance plan.* Each person identified in paragraph (e) of this section must submit a compliance plan consisting of the following:

(1) A proposed project schedule, identifying all major milestones, for meeting the compliance dates specified in paragraph (c) of this section.

(2) A proposed means of compliance with paragraphs (b)(1) through (b)(4) of this section.

(3) A proposal for submitting a draft of all compliance items required by paragraph (b) of this section for review by the FAA Oversight Office not less than 60 days before the compliance date specified in paragraph (c) of this section, as applicable.

(4) A proposal for how the LOV will be distributed.

(e) *Compliance dates for compliance plans.* The following persons must submit the compliance plan described in paragraph (d) of this section to the FAA Oversight Office by the specified date.

(1) Holders of type certificates: No later than April 14, 2011.

(2) Applicants for TCs and amendments to TCs, with the exception of amendments to TCs specified in paragraphs (e)(4), (e)(5), or (e)(6) of this section, if the date of application was before January 14, 2011 but the TC or TC amendment was not issued before January 14, 2011: No later than April 14, 2011.

(3) Holders of either supplemental type certificates or amendments to TCs that increase maximum takeoff gross weights from 75,000 pounds or less to greater than 75,000 pounds: No later than April 14, 2011.

(4) Applicants for either STCs or amendments to TCs that increase maximum takeoff gross weights from 75,000 pounds or less to greater than 75,000 pounds, if the date of application was before January 14, 2011: No later than April 14, 2011.

(5) Applicants for either STCs or amendments to TCs that increase maximum takeoff gross weights from 75,000 pounds or less to greater than 75,000 pounds, if the date of application is on or after January 14, 2011: Within 90 days after the date of application.

(6) Applicants for either STCs or amendments to TCs that decrease maximum takeoff gross weights from greater than 75,000 pounds to 75,000 pounds or less, if the date of application is on or after January 14, 2011: Within 90 days after the date of application.

(f) *Compliance plan implementation.* Each affected person must implement the compliance plan as approved in compliance with paragraph (d) of this section.

(g) *Exceptions.* This section does not apply to the following airplane models:

(1) Bombardier BD-700.

(2) Bombardier CL-44.

(3) Gulfstream GV.

(4) Gulfstream GV-SP.

(5) British Aerospace, Aircraft Group, and Societe Nationale Industrielle Aerospatiale Concorde Type 1.

(6) British Aerospace (Commercial Aircraft) Ltd., Armstrong Whitworth Argosy A.W. 650 Series 101.

(7) British Aerospace Airbus, Ltd., BAC 1-11.

(8) BAE Systems (Operations) Ltd., BAe 146.

(9) BAE Systems (Operations) Ltd., Avro 146.

(10) Lockheed 300-50A01 (USAF C141A).

(11) Boeing 707.

(12) Boeing 720.

(13) deHavilland D.H. 106 Comet 4C.

(14) Ilyushin Aviation IL-96T.

(15) Bristol Aircraft Britannia 305.

(16) Avions Marcel Dassault-Breguet Aviation Mercure 100C.

(17) Airbus Caravelle.

(18) D & R Nevada, LLC, Convair Model 22.

(19) D & R Nevada, LLC, Convair Model 23M.

Table 1—Compliance Dates for Affected Airplanes

Airplane model (all existing ¹models)	Compliance date— (months after January 14, 2011)
Airbus:	
A300 Series	18
A310 Series, A300-600 Series	48
A318 Series	48
A319 Series	48
A320 Series	48
A321 Series	48
A330-200, -200 Freighter, -300 Series	48
A340-200, -300, -500, -600 Series	48
A380-800 Series	60
Boeing:	
717	48
727 (all series)	18

737 (Classics): 737-100, -200, -200C, -300, -400, -500	18
737 (NG): 737-600, -700, -700C, -800, -900, -900ER	48
747 (Classics): 747-100, -100B, -100B SUD, -200B, -200C, -200F, -300, 747SP, 747SR	18
747-400: 747-400, -400D, -400F	48
757	48
767	48
777-200, -300	48
777-200LR, 777-300ER, 777F	60
Bombardier:	
CL-600: 2D15 (Regional Jet Series 705), 2D24 (Regional Jet Series 900)	60
Embraer:	
ERJ 170	60
ERJ 190	60
Fokker:	
F.28 Mark 0070, Mark 0100	18
Lockheed:	
L-1011	18
188	18
382 (all series)	18

McDonnell Douglas:	
DC-8, -8F	18
DC-9	18
MD-80 (DC-9-81, -82, -83, -87, MD-88)	18
MD-90	48
DC-10	18
MD-10	48
MD-11, -11F	48
All Other Airplane Models Listed on a Type Certificate as of January 14, 2011	60

¹ Type certificated as of January 14, 2011.

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§ 26.23 Extended limit of validity.

(a) *Applicability.* Any person may apply to extend a limit of validity of the engineering data that supports the structural maintenance program (hereafter referred to as LOV) approved under § 25.571 of this subchapter, § 26.21, or this section. Extending an LOV is a major design change. The applicant must comply with the relevant provisions of subparts D or E of part 21 of this subchapter and paragraph (b) of this section.

(b) *Extended limit of validity.* Each person applying for an extended LOV must comply with the following requirements:

(1) Establish an extended LOV that corresponds to the period of time, stated as a number of total accumulated flight cycles or flight hours or both, during which it is demonstrated that widespread fatigue damage will not occur in the airplane. This demonstration must include an evaluation of airplane structural configurations and be supported by test evidence and analysis at a minimum and, if available,

service experience, or service experience and teardown inspection results, of high-time airplanes of similar structural design, accounting for differences in operating conditions and procedures. The airplane structural configurations to be evaluated include—

(i) All model variations and derivatives approved under the type certificate for which approval for an extension is sought; and

(ii) All structural modifications to and replacements for the airplane structural configurations specified in paragraph (b)(1)(i) of this section, mandated by airworthiness directive, up to the date of approval of the extended LOV.

(2) Establish a revision or supplement, as applicable, to the Airworthiness Limitations section (ALS) of the Instructions for Continued Airworthiness required by § 25.1529 of this subchapter, and submit it to the FAA Oversight Office for approval. The revised ALS or supplement to the ALS must include the applicable extended LOV established under paragraph (b)(1) of this section.

(3) Develop the maintenance actions determined by the WFD evaluation performed in paragraph (b)(1) of this section to be necessary to preclude WFD from occurring before the airplane reaches the proposed extended LOV. These maintenance actions must be documented as airworthiness limitation items in the ALS and submitted to the FAA Oversight Office for approval.

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