

in this action may be changed in light of the comments received.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the proposed AD is being requested.
- Include justification (*e.g.*, reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this action must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2003-NM-47-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2003-NM-47-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion

In the early 1980's, as part of its continuing work to maintain the structural integrity of older transport category airplanes, the FAA concluded that the incidence of fatigue cracking may increase as these airplanes reach or exceed their design service objective (DSO). A significant number of these airplanes were approaching or had exceeded the DSO on which the initial type certification approval was predicated. In light of this, and as a result of increased utilization, longer operational lives, and the high levels of safety expected of the currently operated transport category airplanes, we determined that a supplemental structural inspection program (SSIP) was necessary to ensure a high level of structural integrity for all airplanes in the transport fleet.

Issuance of Advisory Circular

As a follow-on from that determination, the FAA issued Advisory Circular (AC) No. 91-56, "Supplemental Structural Inspection Program for Large Transport Category Airplanes," dated May 6, 1981. That AC provides guidance material to manufacturers and operators for use in developing a continuing structural integrity program to ensure safe operation of older airplanes throughout their operational lives. This guidance material applies to transport airplanes that were certified under the fail-safe requirements of part 4b ("Airplane Airworthiness, Transport Categories") of the Civil Air Regulations or damage tolerance structural requirements of part 25 ("Airworthiness Standards: Transport Category Airplanes") of the Federal Aviation Regulations (FAR) (14 CFR part 25), and that have a maximum gross weight greater than 75,000 pounds. The procedures set forth in that AC are applicable to transport category airplanes operated under subpart D ("Special Flight Operations") of part 91 of the FAR (14 CFR part 91); part 121 ("Operating Requirements: Domestic, Flag, and Supplemental Operations"); part 125 ("Certification and Operations: Airplanes having a Seating Capacity of 20 or More Passengers or a Maximum Payload of 6,000 Pounds or More"); and part 135 ("Operating Requirements: Commuter and On-Demand Operations") of the FAR (14 CFR parts 121, 125, and 135). The objective of the SSIP was to establish inspection programs to ensure timely detection of fatigue cracking.

Development of the SSIP

In order to evaluate the effect of increased fatigue cracking with respect to maintaining fail-safe design and damage tolerance of the structure of Boeing Model 747 series airplanes, Boeing conducted a structural reassessment of those airplanes, using modern damage tolerance evaluation techniques. Boeing accomplished this reassessment using the criteria contained in AC No. 91-56, as well as Amendment (Amdt.) 25-45 of section 25.571 ("Damage-tolerance and fatigue evaluation of structure") of the FAR (14 CFR 25.571). During the reassessment, members of the airline industry participated with Boeing in working group sessions and developed the SSIP for Model 747 series airplanes. Engineers and maintenance specialists from the FAA also attended these sessions to observe these developments. Subsequently, based on the working group's recommendations, Boeing

developed the Supplemental Structural Inspection Document (SSID).

Current Model 747 Series Airplanes ADs

On July 18, 1994, the FAA issued AD 94-15-12, amendment 39-8983 (59 FR 37933, July 26, 1994), applicable to certain Boeing Model 747-100SR series airplanes. Additionally, on July 22, 1994, we issued AD 94-15-18, amendment 39-8989 (59 FR 41233, August 11, 1994), applicable to certain Boeing Model 747 series airplanes. Both of those ADs currently require that the FAA-approved maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating (DTR) for each structural significant item (SSI), and repair of cracked structure. AD 94-15-12 references Boeing Document No. D6-35655, "Supplemental Structural Inspection Document (SSID) for 747-100SR," dated April 2, 1986; and AD 94-15-18 references Boeing Document No. D6-35022, "Supplemental Structural Inspection Document (SSID) for Model 747 Airplanes," Revision E, dated June 17, 1993; as the appropriate sources of service information. Those actions were prompted by a structural re-evaluation that identified additional structural components where fatigue cracking is likely to occur. The requirements of those ADs are intended to ensure the continued structural integrity of the entire Model 747 fleet in service at the time of issuance of those ADs.

Other ADs Regarding SSIPs

On December 30, 1998, the FAA issued SSIP AD 98-11-03 R1, amendment 39-10983 (64 FR 989, January 7, 1999) for Boeing Model 727 series airplanes and SSIP AD 98-11-04 R1 (64 FR 987, January 7, 1999) for Boeing Model 737 series airplanes. Those ADs, in addition to their primary purpose to require inspection of baseline structure, also address repairs, alterations, and modifications (RAMs). Those ADs require operators to provide damage tolerance-based inspection programs for RAMs that affect principal structural elements or that create new principal structural elements.

This proposed AD for Boeing Model 747 series airplanes will address a damage tolerance-based inspection program only for the baseline structure and will not include RAMs. If a RAM interferes with the inspection of baseline structure, then this area must be addressed per Note 1 of the proposed AD.