

manufacturer's crack growth predictions based on test and analysis for an airplane with 60,000 total flight cycles.

Additionally, we received a report of significant cracking on stringer S-4R of the lap joint between BS 600 and BS 727 on a Model 737-300 series airplane having 52,400 total flight cycles. Although the individual cracks had not linked up, it was clear that, within a limited number of flights, the cracking could have linked up with a length of over 10 inches. Those cracks were detected by performing a low-frequency eddy current (LFEC) and a medium-frequency eddy current (MFEC) inspection. Such cracking, if not corrected, could result in sudden decompression of the airplane.

#### **Explanation of Relevant Service Information**

We have reviewed and approved Boeing Alert Service Bulletin (ASB) 737-53A1255, dated October 17, 2002. The ASB describes procedures for performing an internal detailed inspection, and MFEC and LFEC inspections for damage and cracking of the stringer S-4L and S-4R lap joints and stringer clips between BS 540 and BS 727. If no damage or cracking is found, the ASB advises operators to continue the lap joint repetitive inspections as specified in Boeing SB 737-53A1177, Revision 6, dated May 31, 2001 (referenced in AD 2002-07-08 as an appropriate source of service information for that AD). Boeing ASB 737-53A1255 also describes procedures for performing an external sliding probe inspection or internal MFEC and LFEC inspections for cracking that is defined as "significant" in the ASB. Boeing ASB 737-53A1255 also describes an optional open hole non-destructive testing inspection that may be used in addition to the MFEC, LFEC, and detailed inspections to confirm crack indications. Additionally, Boeing ASB 737-53A1255 specifies that the repair of any cracked lap joints be done per Boeing SB 737-53A1177, Revision 6, dated May 31, 2001. Also, Boeing ASB 737-53A1255 describes procedures for replacing any broken or damaged stringer clips. Boeing ASB 737-53A1255 also requests that operators report certain information resulting from the inspection findings, such as the type of inspection method used and the inspection results, a description of any damage or cracking found, the airplane serial number, and the number of current flight cycles and flight hours on the airplane.

#### **Explanation of the Requirements of the Rule**

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design, this AD is being issued to find and fix cracking of the fuselage lap joints, which could result in sudden decompression of the airplane. This AD requires accomplishment of the actions specified in the service bulletins described previously, except as discussed below.

#### **Differences Between ASB and This AD**

If cracking or damage is found per Boeing ASB 737-53A1255, dated October 17, 2002, that ASB references Boeing SB 737-53A1177, Revision 6, dated May 31, 2001, for procedures to repair any cracking or damage that may be found. Operators should note that this AD also will require repair of cracking or damage that is within the limits specified in Boeing SB 737-53A1177, Revision 6, dated May 31, 2001, per that service bulletin. However, this AD requires that, for any damage or cracking that is found to be outside the limits specified in Boeing SB 737-53A1177, Revision 6, dated May 31, 2001, repair must be accomplished per a method approved by the FAA, or per data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative who has been authorized by the FAA to make such findings.

In addition, Boeing ASB 737-53A1255, dated October 17, 2002, specifies that, if no cracking or damage is found, operators should repeat the lap joint inspections specified in Boeing ASB 737-53A1177. This AD, however, requires only the one-time inspections and, if no damage or cracking is found, operators need only to accomplish the reporting requirements of this AD. (Detailed inspections required by this AD do not replace, but are in addition to the repetitive inspections required by AD 2002-07-08, amendment 39-12702.)

Operators also should note that Boeing ASB 737-53A1255 does not recommend the internal mid-frequency MFEC, LFEC, or detailed inspections described in the ASB for airplanes with less than 45,000 total flight cycles. However, this AD requires those inspections (and repair if necessary) on airplanes prior to the accumulation of 45,000 total flight cycles or within 90 days after the effective date of this AD, whichever occurs later. We consider that the identified unsafe condition must be addressed for all airplanes when 45,000 total flight cycles have been accumulated. Requiring a specific

compliance time for those airplanes addresses that issue.

#### **Interim Action**

This is considered to be interim action. The inspection reports that are required by this AD will enable the manufacturer to obtain better insight into the nature, cause, and extent of the cracking, and eventually to develop final action to address the unsafe condition. Once final action has been identified, we may consider further rulemaking.

#### **Determination of Rule's Effective Date**

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

#### **Comments Invited**

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption **ADDRESSES**. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

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 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 rule that might suggest a need to modify the 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 that