

Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

FOR FURTHER INFORMATION CONTACT: Ivan Li, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6437; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed 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 above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained 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-191-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-191-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion

The FAA has received reports of multiple fatigue cracks in the fuselage skin, strap (bearstrap), and doubler at the forward and aft hinge fittings for the main cargo door on six airplanes. The cracks have been up to 0.15 inch long and have originated from the fastener holes common to the forward and aft main cargo door hinge fittings. The cracks have been found on airplanes with between 45,000 and 66,300 flight hours, and between 34,000 and 50,000 flight cycles. The cracks were discovered during the accomplishment of the inspections specified in the Supplemental Structural Inspection Document. Such cracking, if not corrected, could reach critical crack length and result in rapid decompression of the airplane.

Explanation of Relevant Service Information

We have reviewed and approved Boeing Alert Service Bulletin 727-53A0226, dated September 11, 2003, which describes procedures for repetitive open-hole high frequency eddy current inspections for cracks in the fuselage skin, strap (bearstrap), and doubler at the forward and aft hinge fittings for the main deck cargo door. These inspections are recommended on airplanes before they have accumulated 30,000 total flight cycles, or within 1,500 flight cycles (or 3,000 flight cycles for freighters) after the effective date of the AD, whichever occurs later, and are repeated at intervals not to exceed 10,000 flight cycles. The fittings are located at body stations 486 and 610 and at stringer 3L. The service bulletin recommends that operators contact Boeing for repair instructions.

Explanation of Requirements of Proposed Rule

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require accomplishment of the actions specified in the service bulletin

described previously, except as discussed below.

Differences Between Proposed AD and Service Bulletin

The service bulletin specifies compliance times relative to the date of the service bulletin; however, this proposed AD would require compliance with the thresholds after the effective date of the AD.

Although the service bulletin specifies that operators may contact the manufacturer for disposition of certain repair conditions, this proposed AD would require operators to repair those conditions per a method approved by the Manager of the Seattle Aircraft Certification Office of 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.

This proposed AD would also require that, within 12 months following a repair, operators implement an inspection program for the repair into the 727 maintenance program in accordance with a method and compliance times approved by the Manager, Seattle ACO; or per data meeting 14 CFR 25.571 (Amendment 25-54 or later) approved by a Boeing Company DER who has been authorized by the Manager, Seattle ACO, to make such findings. To ensure timely detection of cracking in those areas, we have determined that new inspection methods and compliance times are necessary for areas that have been repaired. The new inspection methods and compliance times should meet the requirements of 14 CFR 25.571 (Amendment 25-54 or later).

Interim Action

We consider this proposed AD interim action. If final action is later identified, we may consider further rulemaking then.

Cost Impact

There are approximately 195 airplanes of the affected design in the worldwide fleet. We estimate that 133 airplanes of U.S. registry would be affected by this proposed AD. We provide the following cost estimates to comply with this proposed AD, per inspection cycle:

Group	Work hours	Hourly labor rate	Parts	Cost per airplane
1	7	\$65	\$0	\$455
2	8	65	0	520
3	8	65	0	520