Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 96–NM–263–AD]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 727 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the supersedure of an existing airworthiness directive (AD), applicable to certain Boeing Model 727 series airplanes, that currently requires that the FAA-approved maintenance inspection program be revised to include inspections that will give no less than the required damage tolerance rating for each Structural Significant Item, and repair of cracked structure. That AD was prompted by a structural re-evaluation by the manufacturer which identified additional structural elements where, if damage were to occur, supplemental inspections may be required for timely detection. This action would require additional and expanded inspections, and repair of cracked structure. This action also would expand the applicability of the existing AD to include additional airplanes. The actions specified by the proposed AD are intended to ensure the continued structural integrity of the entire Boeing Model 727 fleet.

DATES: Comments must be received by July 7, 1997.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM–103, Attention: Rules Docket No. 96–NM–263–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124–2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

FOR FURTHER INFORMATION CONTACT: Walter Sippel, Aerospace Engineer, Airframe Branch, ANM–120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Washington; telephone (206) 227–2774; fax (206) 227–1181.

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 notice may be changed in light of the comments received.

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 notice must submit a self-addressed, stamped postcard on which the following statement is made: ''Comments to Docket Number 96–NM–263–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–103, Attention: Rules Docket No. 96–NM–263–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056.

Determination to Develop the Supplemental Structural Inspection Program

As part of its continuing work to maintain the structural integrity of older transport category airplanes, in the early 1980's, 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, the FAA 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. The 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 large transport airplanes that were certified under the fail-safe requirements of Civil Air Regulations 4b or damage tolerance structural requirements of 14 CFR part 25, and that have a maximum gross weight greater than 75,000 pounds. The procedures set forth in this AC are applicable to the large transport category airplanes operated under subpart D of 14 CFR part 91 and parts 121, 123, 125, and 135. The objective of the SSIP was to establish inspection programs to ensure timely detection of fatigue cracking.

Development of the Supplemental Structural Inspection Program

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 727 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 14 CFR 25.571; Amdt. 25–45. During the reassessment, members of the airline industry participated with Boeing in working group sessions and developed the SSIP for Model 727 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).

Issuance of AD 84–21–05, Amendment 39–4920

On September 7, 1984, the FAA issued AD 84–21–05, amendment 39–4920 (49 FR 38931, October 2, 1984), which is applicable to certain Boeing Model 727 series airplanes. That AD currently requires 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. The AD references Boeing Document No. D6–48040–1, ''Supplemental Structural Inspection Document'' (SSID), Revision E, dated June 21, 1983, as the appropriate source of service information. That action was prompted by a structural re-evaluation that identified additional structural components where fatigue cracking is likely to occur. The requirements of that AD are intended to ensure the continued structural integrity of the entire Boeing Model 727 fleet.

Actions Since Issuance of Previous AD

Since issuance of AD 84–21–05, the FAA has reconsidered the following four aspects of the existing SSID:

1. Classification of Fuselage Skin as ''Damage Obvious'' or ''Malfunction Evident''

AC No. 91–56, Change 2, dated April 15, 1983, recommends that the SSID should contain inspections of all critical parts or components for each airplane to ensure the continued safe operation of the existing fleet. The fuselage skin is an example of a critical component. Cracking in any critical part or component, if not detected and corrected in a timely manner, could result in reduced structural integrity of the airplane.

Revision E of the SSID excluded the fuselage skin from directed inspections, since it was classified as ''damage obvious'' or ''malfunction evident.'' At the time of this classification, Revision E of the SSID relied on venting or flapping to indicate cracks in the fuselage skin.

Venting is a gradual loss of cabin pressure as a result of cracking in the pressurized area of the fuselage skin. Based on the design philosophy of flapping, these cracks in the fuselage skin would grow only to a specific length and then turn direction because of certain structural components. Because venting and flapping were considered to be readily apparent, Boeing considered that it was unnecessary to provide for additional inspections of the fuselage skin. Reliance also was placed on venting or flapping to allow for the safe operation of an airplane with such cracks. This technique worked well in ground tests and in some in-service incidents, but proved to be unreliable in other cases.

In one such case, a large portion of Section 43 of the fuselage structure separated from a Boeing Model 737 series airplane. Results of a National Transportation Safety Board (NTSB) investigation revealed that this incident occurred as a result of the catastrophic failure of the fuselage skin at a lap joint. The results also revealed that, contrary to the design philosophy, controlled decompression of the structure (i.e., flapping or venting) did not occur due to the presence of widespread fatigue damage. As a result of this failure, the NTSB recommended that the SSID be revised to discontinue classification of the fuselage skin as ''damage obvious'' or ''malfunction evident.''

The FAA concurs with the NTSB's recommendation. Therefore, the FAA has determined that additional inspections are necessary to ensure timely detection of cracks in the fuselage skin structure.

2. Deletions of Modified, Altered, or Repaired Structure From the SSIP

Paragraph 1.4 of Appendix 1, ''Guidelines for Development of Supplemental Inspection Document,'' of AC No. 91–56, Change 2, dated April 15, 1983, states, ''the effect of repairs and modifications approved by the manufacturer should also be taken into account. In addition, it may be necessary to consider the effect of repairs and operator-approved modifications on individual airplanes. The operator has the responsibility for ensuring notification and consideration of any such aspects.''

In addition, the FAA's current policy is that operators of transport category airplanes that are subject to AD's that mandate SSID programs should follow the guidelines of AC No. 91–56 and should continue to inspect any SSI that is modified, altered, or repaired in any way. Any modification that affects the loading spectrum, stress levels, or damage tolerance characteristics of the structure must be reassessed to determine its impact on the inspection program. Such a reassessment may require the development of additional inspection requirements for that modification.

The FAA's policy also states that, ''* * * the [SSID] programs are based on type design crack growth data generated from analysis or structural tests using a realistic and conservative loading spectrum, material properties, part geometry, etc. For this reason, structural modifications that may increase stress levels in load carrying structures, including maximum weight limit increases, cargo door installations, and repairs to load carrying structures, must be reassessed for its impact on the structural inspection program.'' (Reference: Transport Airplane Directorate's Policy Letter, *Information: Policy Regarding Impact of Modifications and Repairs on the Damage Tolerance Characteristics of Transport Category Airplanes,* dated October 27, 1989. This letter will be retained in Rules Docket No. 96–NM–263–AD.)

Section 5.0 of Revision E of the SSID contains provisions that allow for the deletion of modified, altered, or repaired areas from the SSIP because Boeing considers these areas not to be ''representative of the fleet.'' The FAA is aware that there have been a significant number of such deletions. As a result, contrary to the FAA's policy discussed above, operators are not following the guidelines of AC No. 91–56 and not continuing to inspect any SSI that is modified, altered, or repaired in any way.

In addition, for Boeing Model 727 series airplanes that have been converted from a passenger configuration to an all-cargo configuration by the Supplemental Type Certification (STC) process, the FAA finds that Revision E of the SSID does not include procedures for inspection of new SSI's created by this conversion, or unmodified SSI's affected by this conversion. (There are approximately 304 of these airplanes in the worldwide fleet of which several are listed in the effectivity listing of Revision E of the SSID.) These conversions have the effect of removing SSI's from the SSIP and creating a large number of new SSI's that have not been assessed. Consequently, airplanes that have been

converted to an all-cargo configuration do not have a SSID that specifies an inspection method and compliance time for each new SSI. Additionally, an unmodified SSI also could require a new inspection method and compliance time because the modification may increase the loads or change the load distributions in that SSI. These conditions would necessitate that the inspection interval for that affected, unmodified SSI be shorter than required in the Boeing SSID. Hence, the FAA finds that the objectives of the SSIP are not being met for these modified airplanes.

Likewise, a design change (such as an increase in the maximum certified weight or in the center of gravity limits) also may cause an increase in the loads or change the load distributions in the affected, unmodified SSI's. The effect of this increase or change would be similar to the effect that a cargo conversion would have on an unmodified SSI. As a result, the inspection interval for an affected, unmodified SSI may need to be lower than required in the Boeing SSID. Thus, the DTR specified in the SSID for any SSI affected by a design change may no longer be applicable. Therefore, the FAA finds that the objectives of the SSIP are not being met for airplanes with such design changes.

Furthermore, in consideration of AC No. 91–56 and current FAA policy, the FAA has determined that new inspection methods and compliance times are necessary for areas that have been modified, altered, or repaired to ensure timely detection of cracking in those areas. The FAA also has determined that new inspection methods and compliance times are necessary for those areas that were deleted from the SSIP by previously approved alternative methods of compliance, which includes those areas deleted in accordance with the requirements of Section 5.0 of the SSID. Furthermore, the new inspection methods and compliance times should meet the requirements of 14 CFR 25.1529, Amdt. 25–45; 14 CFR 25.571, Amdt. 25–45; 14 CFR 25.571, Amdt. 25–54; 14 CFR 25.571, Amdt. 25–72; or the guidelines of AC 91–56.

3. Candidate Fleet vs. Inspection Threshold Approach

Paragraph 4.4 of AC No. 91–56, Change 2, dated April 15, 1983, states, ''Inspection thresholds for supplemental inspections should be established. These inspections would be supplemental to the normal inspection including the detailed internal inspections.'' Moreover, paragraph 4.4.2 of AC No. 91–56 states, ''* * * this threshold should be such as to include sufficient [high-cycle] airplanes in the inspection to develop added confidence in the integrity of the structure.* * *''

A properly established inspection threshold ensures that: (1) The SSI inspections are accomplished; (2) fatigue cracks in SSI's are detected in a timely manner; (3) airplanes are automatically added to the SSIP; and (4) the SSIP includes a statistically valid number of airplanes.

Among other things, Revision E of the SSID defines a candidate fleet approach to ensure that fatigue cracks in SSI's are detected in a timely manner in the entire fleet. The initial Boeing Model 727 candidate fleet consisted of a number of airplanes that had exceeded 30,000 flight cycles by January 31, 1983. In other words, Boeing considered 30,000 flight cycles to be the threshold for the airplanes in the candidate fleet. These airplanes were the most likely in the fleet to experience initial fatigue damage since they had the highest number of flight cycles. Boeing produced this SSID with the assumption that the airplanes in the candidate fleet would continue to represent the entire fleet and would have the highest number of flight cycles in the fleet.

Under the existing SSIP, Boeing intended to periodically review the airplanes in the candidate fleet for significant changes in fleet distribution, composition, or utilization, and update the candidate fleet, if any significant change was detected. It was intended that the FAA would then mandate any change to the SSID through the rulemaking process.

The FAA finds that the candidate fleet approach is deviating from Boeing's original philosophy in that the candidate fleet has not been updated to reflect changes (such as cargo conversions) in the fleet. This situation could result in a statistically invalid number of airplanes in the SSIP and undetected fatigue cracks in SSI's. The candidate fleet approach also does not automatically account for non-candidate airplanes that eventually accumulate more flight cycles than that of certain candidate airplanes. High-cycle airplanes are more likely to experience initial fatigue damage in the fleet. The confidence in the structural integrity of the fleet of airplanes could be reduced if high-cycle airplanes are excluded from the SSIP.

The FAA has reconsidered the candidate fleet approach described in Revision E of the SSID, since it does not meet the guidelines of AC No. 91–56. The FAA has determined that the Boeing Model 727 SSIP must contain inspection thresholds for all Boeing Model 727 series airplanes to ensure the timely detection of fatigue cracks in the SSI's.

The FAA has reviewed the thresholds derived from Boeing's reliability analysis. The analysis is based on a certain probability that cracks will be detected in the inspected fleet before they initiate on other airplanes that have not been inspected. The FAA has determined that the thresholds recommended in the analysis of past service experience of the Boeing Model 727 fleet are acceptable. Therefore, for Model 727–100C and 727–200F series airplanes, the FAA has determined that a threshold of 46,000 total flight cycles is necessary in order to produce a statistically valid assessment of the service history for these airplanes. For other Model 727 series airplanes, the FAA has determined that a threshold of 55,000 total flight cycles is necessary to produce a valid assessment. The threshold for Model 727–100C and 727–200F series airplanes is lower than that of other Model 727 series airplanes since Model 727–100C and 727–200F series airplanes have a lower utilization rate and fewer airplanes in the fleet. Since the utilization rate is lower for Model 727–100C and 727–200F series airplanes, these airplanes have accumulated fewer flight cycles and have fewer airplanes with higher flight cycles than that of the remaining fleet.

It should be noted that, although the proposed AD requires a threshold, the FAA may approve requests for adjustments to the compliance time [i.e., under paragraph (h)(1) of this proposed AD] provided that no cracking is detected in the airplane structure. The request should include a new inspection threshold and must include data to substantiate that such an adjustment would provide an acceptable level of safety.

Operators should note that the alternative inspection threshold may be based solely on the analysis of the data of the existing fleet. However, the FAA has determined that the analysis that derives the new inspection threshold must include: (1) Data relevant to a sufficient number of high-cycle airplanes, and (2) data that shows accomplishment of the inspections of the SSI's. An adequate statistical sampling size will provide confidence in the structural integrity of the fleet of airplanes. Therefore, additional airplanes may need to be added to the inspected fleet until a sufficient number of airplanes have been inspected with no crack findings.

4. Transferability of Airplanes

Since issuance of the SSID and AD 84–21–05, the FAA has issued several AD's that implement Corrosion Prevention and Control Programs (CPCP) for aging airplanes. While developing the AD's that mandated the CPCP, the FAA recognized that an operator of an airplane that has been transferred from another operator could revise its maintenance program to restart the compliance times for the required corrosion tasks. This situation could lead to corrosion not being detected and corrected in a timely manner, which could reduce the structural integrity of the airplane.

As a result, the CPCP AD's require that operators establish a program for accomplishment of the subject corrosion tasks before any airplane can be added to an air carrier's operations specification. Establishment of this program will ensure that airplanes transferred from operator to operator are inspected and that corrosion is detected in a timely manner.

The FAA's intent in AD 84–21–05 was that operators of candidate fleet airplanes that have been previously operated under an FAA-approved maintenance program accomplish the SSID inspections within the compliance time established by the previous operator. The FAA assumed that, under the existing SSID, these airplanes would be inspected in a manner similar to CPCP requirements. However, the SSID and AD 84–21–05 do not address the transfer of airplanes in the candidate fleet from one operator to another.

AD 84–21–05 currently requires that the revision to the maintenance program be included and be implemented in accordance with the procedures specified in Sections 5.0 and 6.0 of the SSID. However, the FAA finds that these sections do not provide explicit instructions to repetitively inspect airplanes that have been transferred from one operator to another. It also does not specify that new operators must continue the SSID inspections at the same frequency established by the previous operator.

In addition, as AD 84–21–05 is currently worded, the FAA finds that operators that acquire candidate fleet airplanes that have been previously operated under a maintenance inspection program could revise their programs to restart the compliance times. This situation is contrary to standard AD requirements. An AD typically mandates an initial compliance time and a repetitive interval that remains unchanged for all operators of the affected airplanes.

As a result of these omissions, the SSID inspections of a candidate fleet airplane could be deferred until it is required by the maintenance inspection program of the new operator. For airplanes that are transferred frequently, this situation could continue for the life of the airplane. As a result, fewer Boeing Model 727 candidate fleet airplanes are being inspected; thus, the size of the candidate fleet is in effect reduced. Even if airplanes are ultimately inspected under these circumstances, inspections would not be performed frequently enough to maintain the applicable DTR. The FAA has determined that such a reduction does not ensure the continued structural integrity of the entire Boeing Model 727 fleet.

Implementation of procedures in the SSID that are similar to the CPCP will ensure that: (1) Airplanes transferred from operator to operator are inspected; (2) the SSIP includes a statistically valid number of airplanes; and (3) fatigue cracks are detected in a timely manner.

Therefore, the FAA finds that, to ensure the continued structural integrity of the entire Model 727 fleet, the AD 84–21–05 must be revised to include provisions that address the transfer of airplanes. The FAA also finds that a program must be established to accomplish the inspections before any airplane that is subject to this proposal can be added to an air carrier's operations specifications.

FAA's Conclusions

In light of all the factors discussed above, the FAA has determined that AD 84–21–05 does not adequately ensure timely detection of fatigue cracking in SSI's. Fatigue cracking in those items, if not detected and corrected in a timely manner, could result in reduced structural integrity of the airplane.

Explanation of New Relevant Service Information

The FAA has reviewed and approved Boeing Document No. D6–48040–1, ''Supplemental Structural Inspection Document'' (SSID), Revision H, dated June 29, 1994, which describes procedures for revising the FAA-approved maintenance inspection program for all Boeing Model 727 series airplanes. This revision of the Model 727 SSID incorporates additional and expanded inspections from those that were contained in the previous version and mandated by AD 84–21–05. The fuselage skin structure that was the subject of an NTSB recommendation is included in these inspections. The FAA finds that accomplishment of these inspections will ensure the continuing structural integrity of the total Boeing Model 727 fleet.

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 supersede AD 84–21–05.

Paragraph (a) of the proposed AD restates the requirements of AD 84–21–05.

Paragraph (b) of the proposed AD would require incorporation of a revision into the FAA-approved maintenance inspection program that provides no less than the required DTR for each SSI listed in Revision H of the SSID.

Paragraph (c) of the proposed AD would establish specific compliance times for performing the initial inspection of the structure identified in Revision H of the SSID. Once the initial inspection has been performed, operators would be required to perform repetitive inspections at the intervals specified in the Document in order to remain in compliance with their maintenance inspection programs, which would have been revised in accordance with paragraph (b) of this proposed AD.

Paragraph (d) of the proposed AD would require, for airplanes on which any design change or repair has been accomplished prior to the effective date of this proposed AD, a revision to the FAA-approved maintenance inspection program to include an inspection method for any new or affected SSI, and to include the compliance times for this inspection. This paragraph also would require that any new inspection method and the compliance times be approved by the FAA.

Paragraph (e) of the proposed AD would require that the repair of any cracked structure is to be accomplished in accordance with an FAA-approved method.

Paragraph (f) of the proposed AD would require, for airplanes on which any design change or repair has been accomplished after the effective date of this proposed AD, a revision to the FAA-approved maintenance inspection program to include a new inspection method for any new or affected SSI, and to include the compliance times for this inspection. This paragraph also would require that any new inspection method and the compliance times be approved by the FAA.

Before any airplane that is subject to this proposed AD can be added to an air carrier's operations specifications, a program for the accomplishment of the

inspections required by this proposed AD must be established. Paragraph (g) of the proposed AD would require accomplishment of the following:

1. For airplanes that have been inspected in accordance with this proposed AD, the inspection of each SSI must be accomplished by the new operator in accordance with the previous operator's schedule and inspection method, or the new operator's schedule and inspection method, whichever would result in the earlier accomplishment date for that SSI inspection. The compliance time for accomplishment of this inspection must be measured from the last inspection accomplished by the previous operator. After each inspection has been performed once, each subsequent inspection must be performed in accordance with the new operator's schedule and inspection method.

2. For airplanes that have not been inspected in accordance with this proposed AD, the inspection of each SSI must be accomplished either prior to adding the airplane to the air carrier's operations specification, or in accordance with a schedule and an inspection method approved by the FAA. After each inspection has been performed once, each subsequent inspection must be performed in accordance with the new operator's schedule.

Accomplishment of these inspections will ensure that: (1) Operators' newly acquired airplanes comply with its SSIP before being operated; and (2) frequently transferred aircraft are not permitted to operate without accomplishment of the inspections defined in the SSID.

Differences Between SSID and Proposed AD

Operators should note the following differences between the procedures specified in Revision H of the SSID and the proposed requirements of this AD:

1. Paragraphs 5.1.17 and 5.1.18 of the General Instructions of Revision H of the SSID permit deletions of modified, altered, or repaired structure from the SIP. As described previously in Item 2 of the ''Actions Since Issuance of Previous AD'' section of this preamble, the FAA has determined that such deletions are unacceptable. Therefore, for airplanes on which the areas specified in the SSID have been modified, altered, or repaired, the proposed AD would require a revision to the operator's existing SSIP to include procedures for accomplishing a new FAA-approved inspection method that provides a new DTR for that SSI.

2. Revision H of the SSID bases the supplemental inspections on specific high-cycle airplanes (i.e., candidate fleet airplanes) and does not include an inspection threshold for those airplanes. It also does not automatically add airplanes to the candidate fleet. Based on the discussion described previously in Item 3 of the ''Actions Since Issuance of Previous AD'' section of this preamble, the FAA has determined that the proposed AD would expand the applicability of this AD action to include all Model 727 series airplanes. In addition, for Model 727–100C and 727–200F series airplanes, the proposed inspection of all SSI's would be required to be accomplished prior to the accumulation of 46,000 total flight cycles, or within 18 months, whichever occurs later. For other Model 727 series airplanes, the proposed inspection of all SSI's would be required to be accomplished prior to the accumulation of 55,000 total flight cycles, or within 18 months, whichever occurs later.

Cost Impact

There are approximately 1,542 Boeing Model 727 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 74 airplanes of U.S. registry would be affected by this proposed AD.

The actions that are proposed in this AD action would take approximately 1,200 work hours per airplane to accomplish, at an average labor rate of $60 per work hour. Based on these figures, the cost impact of the proposed requirements of this AD on U.S. operators is estimated to be $5,328,000, or $72,000 per airplane, per inspection cycle.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the current or proposed requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

The number of required work hours, as indicated above, is presented as if the accomplishment of the actions proposed in this AD were to be conducted as ''stand alone'' actions. However, in actual practice, these actions for the most part would be accomplished coincidentally or in combination with normally scheduled airplane inspections and other maintenance program tasks. Therefore, the actual number of necessary additional work hours would be minimal in many instances. Additionally, any costs associated with special airplane scheduling would be minimal.

Regulatory Impact

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (1) is not a ''significant regulatory action'' under Executive Order 12866; (2) is not a ''significant rule'' under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption **ADDRESSES.**

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39–4920 (49 FR 38931, October 2, 1984), and by adding a new airworthiness directive (AD), to read as follows:

Boeing: Docket 96–NM–263–AD. Supersedes AD 84–21–05, Amendment 39–4920.

Applicability: All Model 727 series airplanes, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To ensure the continued structural integrity of the total Boeing Model 727 fleet, accomplish the following:

Note 1. Where there are differences between the AD and the Supplemental Structural Inspection Document, the AD prevails.

(a) For airplanes listed in Section 3.0 of Boeing Document No. D6–48040–1,

''Supplemental Structural Inspection Document'' (SSID), Revision E, dated June 21, 1983: Within 12 months after November 1, 1984 (the effective date of AD 84–21–05, amendment 39–4920), incorporate a revision into the FAA-approved maintenance inspection program which provides no less than the required damage tolerance rating (DTR) for each Structural Significant Item (SSI) listed in that document. (The required DTR value for each SSI is listed in the document.) The revision to the maintenance program shall include and shall be implemented in accordance with the procedures in Sections 5.0 and 6.0 of the SSID. This revision shall be deleted following accomplishment of the requirements of paragraph (b) of this AD.

Note 2. For the purposes of this AD, an SSI is defined as a principal structural element that could fail and consequently reduce the structural integrity of the airplane.

(b) Within 12 months after the effective date of this AD, incorporate a revision into the FAA-approved maintenance inspection program that provides no less than the required DTR for each SSI listed in Boeing Document No. D6–48040–1, ''Supplemental Structural Inspection Document'' (SSID), Revision H, dated June 29, 1994 (hereinafter referred to as ''Revision H''). (The required DTR value for each SSI is listed in the document.) The revision to the maintenance program shall include and shall be implemented in accordance with the procedures in Section 5.0, ''Damage Tolerance Rating (DTR) System Application'' and Section 6.0, ''SSI Discrepancy Reporting'' of Revision H. Upon incorporation of the revision required by this paragraph, the revision required by paragraph (a) of this AD may be deleted.

(c) Except as provided in paragraph (d) or (f) of this AD, as applicable, perform an inspection to detect cracks in all structure identified in Revision H at the time specified in paragraph (c)(1) or (c)(2) of this AD, as applicable.

(1) For Model 727–100C and 727–200F series airplanes: Inspect prior to the accumulation of 46,000 total flight cycles, or within 18 months after the effective date of this AD, whichever occurs later.

(2) For all airplanes, except for those airplanes identified in paragraph (c)(1) of this AD: Inspect prior to the accumulation of 55,000 total flight cycles, or within 18 months after the effective date of this AD, whichever occurs later.

Note 3. Once the initial inspection has been performed, operators are required to perform repetitive inspections at the intervals specified in Revision H in order to remain in compliance with their maintenance inspection programs, as revised in accordance with paragraph (b) of this AD.

(d) For airplanes on which the structure identified in Revision H is affected by any design change or repair that was accomplished prior to the effective date of this AD: Within 18 months after the effective date of this AD, revise the FAA-approved maintenance inspection program to include an inspection method for any new or affected SSI, and to include the compliance times for initial and repetitive accomplishment of this inspection. For purposes of this section, an SSI is ''affected'' if it has been altered or repaired, or if the loads acting on the SSI have been increased or redistributed. Following accomplishment of the revision and within the compliance times established, perform an inspection to detect cracks in the structure affected by any design change or repair, in accordance with the new inspection method. The new inspection method and the compliance times shall be approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055–4056, fax (206) 227–1181.

Note 4. Notwithstanding the provisions of paragraphs 5.1.17 and 5.1.18 of the General Instructions of Revision H, which would permit deletions of modified, altered, or repaired structure from the SIP, the inspection of SSI's that are modified, altered, or repaired shall be done in accordance with a method approved by the Manager, Seattle ACO.

Note 5. For the purposes of this AD, a design change is defined as any modification, alteration, or change to operating limitations.

(e) Cracked structure found during any inspection required by this AD shall be repaired, prior to further flight, in accordance with an FAA-approved method.

(f) For airplanes on which the structure identified in Revision H is affected by any design change or repair that is accomplished after the effective date of this AD: Within 12 months after that modification, alteration, or repair for any new or affected SSI, revise the FAA-approved maintenance inspection program to include an inspection method for any new or affected SSI, and to include the compliance times for initial and repetitive accomplishment of this inspection. For purposes of this section, an SSI is ''affected'' if it has been altered or repaired, or if the loads acting on the SSI have been increased or redistributed. Following accomplishment of the revision and within the compliance times established, perform an inspection to detect cracks in the structure affected by any design change or repair, in accordance with the new inspection method. The new inspection method and the compliance times shall be approved by the Manager, Seattle ACO.

Note 6. Notwithstanding the provisions of paragraphs 5.1.17 and 5.1.18 of the General Instructions of Revision H, which would permit deletions of modified, altered, or repaired structure from the SIP, the inspection of SSI's that are modified, altered, or repaired shall be done in accordance with a method approved by the Manager, Seattle ACO.

(g) Before any airplane that is subject to this AD and that has exceeded the applicable compliance times specified in paragraph (c) of this AD can be added to an air carrier's operations specifications, a program for the accomplishment of the inspections required by this AD must be established in accordance with paragraph (g)(1) or (g)(2) of this AD, as applicable.

(1) For airplanes that have been inspected in accordance with this AD, the inspection of each SSI must be accomplished by the new operator in accordance with the previous operator's schedule and inspection method, or the new operator's schedule and inspection method, whichever would result in the earlier accomplishment date for that SSI inspection. The compliance time for accomplishment of this inspection must be measured from the last inspection accomplished by the previous operator. After each inspection has been performed once, each subsequent inspection must be performed in accordance with the new operator's schedule and inspection method.

(2) For airplanes that have not been inspected in accordance with this AD, the inspection of each SSI required by this AD must be accomplished either prior to adding the airplane to the air carrier's operations specification, or in accordance with a schedule and an inspection method approved by the Manager, Seattle ACO. After each inspection has been performed once, each subsequent inspection must be performed in accordance with the new operator's schedule.

(h)(1) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

Note 7. Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

(2) Alternative methods of compliance, approved previously in accordance with AD 84–21–05, amendment 39–4920, are *not* considered to be approved as alternative methods of compliance with this AD.

(i) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Issued in Renton, Washington, on May 19, 1997.

S.R. Miller,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97–CE–11–AD]

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Airworthiness Directives; Raytheon Aircraft Company Models 1900, 1900C, and 1900D Airplanes

AGENCY: Federal Aviation Administration, DOT.