DOCKET NO. SA-516

EXHIBIT NO. 11N

# NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C.

## AIRWORTHINESS DIRECTIVE (AD) 97-03-17

(PAGES N-1 THRU N-9)

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [62 FR 5748 NO. 26 02/07/97]

[Docket No. 96-NM-57-AD; Amendment 39-9922; AD 97-03-17]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747 and 757 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to all Boeing Model 747 and 757 series airplanes, that requires repetitive visual inspections to detect discrepancies of the wire terminal assembly, electrical connector, and wire insulation on the fuel pump; and replacement of the fuel pump with a new fuel pump, if necessary. This amendment also requires repetitive insulation resistance tests of the fuel pump wiring. This amendment is prompted by reports of fuel leaks at the fuel boost and override/jettison pumps due to corrosion. The actions specified by this AD are intended to prevent such a fuel leakage, which could result in a fire at the location of the affected fuel pump.

DATES: Effective March 14, 1997.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 14, 1997.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: G. Michael Collins, Aerospace Engineer, Seattle Aircraft Certification Office, Propulsion Branch, ANM-140S, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2689; fax (206) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to all Boeing Model 747 and 757 series airplanes was published in the **Federal Register** on August 14, 1996 (61 FR 42195). That action proposed to require a visual inspection to detect discrepancies of the wire terminal assembly, electrical connector, and wire insulation on the fuel pump; and replacement of the fuel pump with a new fuel pump, if necessary. That action also proposed to require repetitive insulation resistance tests of the fuel pump wiring.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

**Support for the Proposal**

One commenter supports the proposed AD.

**Request to Allow Credit for Use of Previous Versions of Service Bulletins**

Several commenters request that the proposal be revised to provide credit to those operators who have already initiated the inspections in accordance with the original versions of Boeing Service Bulletins 747-28A2194 and 757-28A0043. One of these commenters, states that Revision 1 of both of these service bulletins, which are referenced in the proposal, contain essentially the same inspection and test procedures of the subject fuel pumps as is contained the original versions.

The FAA concurs partially with the commenters' request:

The FAA finds that both the original version and Revision 1 of Boeing Service Bulletin 757-28A0043, which is applicable to Model 757 series airplanes, contain essentially identical inspection procedures. Therefore, operators of those airplanes will be given credit for any inspections conducted in accordance with the original version of the service bulletin accomplished prior to the effective date of this AD. The final rule has been revised to indicate this.

However, the FAA finds that Revision 1 of Boeing Service Bulletin 747-28A2194, which is applicable to Model 747 series airplanes, is substantively different from the original version, in that Revision 1 adds a continuity check of the pin 4 bonding strap internal to the pump (the pump ground wire). Although the manufacturer asserts that this continuity check "does not affect the result of the key insulation resistance test which determines the condition of the pump connector," the FAA maintains that the continuity check is an important step, without which the resistance test cannot be considered adequate. Therefore, operators who previously have performed the resistance tests in accordance with the original version of that service bulletin will not be granted credit for those tests as compliance with the applicable requirements of this AD.

**Request to Clarify Applicability of Requirements to New Airplanes**

One commenter requests that the proposal be revised to clarify what inspection actions would be required of new airplanes that are delivered after the effective date of the AD. The commenter states that the proposal is not clear whether the AD applies to these new airplanes or not, and, if it does apply, when the first inspection is required.

The FAA does not consider that any further clarification of the applicability of the AD is necessary. The applicability statement of the AD clearly indicates that it is applicable to "all Model 747 and 757 airplanes." This includes airplanes delivered now or in the future; it is not limited to any range of existing airplanes. Since the configuration of the subject area on all of these airplanes, from the earliest manufactured to the most recent, is similar, all are subject to the unsafe condition addressed by this AD.

To clarify the commenter's concern as to when the first inspection of new airplanes is required, the FAA points out that any airplane that is manufactured and/or delivered after 120 days after the effective date of this AD, will have to be inspected in accordance with the AD prior to its delivery, as required by the Federal Aviation Regulations (FAR). The AD stipulates in its compliance provisions that the actions are required at the time specified in the AD, "unless [those actions have been] accomplished previously." The inspection of the pumps that is conducted previous to the delivery of the new airplanes is considered to be the initial inspection required by the AD.

**Request to Extend Compliance Time for Initial Inspection**

Several commenters request that the proposal be revised to extend the proposed compliance time of 120 days for the initial inspection to as much as 9 months. Most of these commenters are airline operators, and request the extension in order to accommodate the inspection during their regular maintenance schedules. One of these

commenters requests that the initial inspection interval be based on how many hours have accumulated on the affected fuel pump. Another commenter requests that the compliance time be stated as "the operator's next 'C'-check" for new airplanes delivered after the effective date of the AD. Several commenters request an extension because they are concerned that an ample number of spare fuel pumps will not be available to support the affected fleet, should it be necessary to replace all pumps within the proposed 120-day compliance period.

The FAA does not concur with the commenters' requests to extend the compliance time. In developing an appropriate compliance time for this action, the FAA considered not only the degree of urgency associated with addressing the subject unsafe condition, but the availability of necessary parts and the practical aspect of conducting the required inspections within an interval of time that parallels normal scheduled maintenance for the majority of affected operators. The FAA also took into account the manufacturer's recommendation (specified in the referenced Boeing service bulletin) that the first inspection to be conducted "at the next maintenance time when manpower and equipment are available." The FAA finds that, for the majority of affected operators, some scheduled maintenance will occur within the 120-day compliance period.

As for the commenters' concern that the availability of an ample number of replacement parts will be a problem, the FAA has received no indication to substantiate that parts will not be available during the compliance period. The FAA has been advised that there is a 60-day turnaround time for ordering retrofit pumps from at least one vendor; this should provide enough time for operators to obtain parts within the 120-day compliance time for the initial inspection.

In light of these factors, the FAA finds no technical justification for delaying the initiation of inspections any further. The FAA has determined that the 120-day compliance time for accomplishing the initial inspection is not only appropriate, but warranted.

**Request to Extend Repetitive Inspection Intervals**

Several commenters request that the proposal be revised to extend the intervals for repetitive visual inspections of the pumps from the proposed "5,000 hours or 18 months, whichever occurs first." Some commenters request that the interval be specified as "every 'C'-check;" others request that it be "every 8,000 flight hours." The commenters indicate that such extensions would allow the inspections to be conducted during regularly scheduled maintenance intervals. One commenter requests that the repetitive inspection interval be extended for airplanes equipped with permanently mounted fuel vapor sensors that can detect leaked fuel and fuel vapor in the vicinity of the pump.

The FAA does not concur with the commenters' requests to extend the repetitive inspection interval. Based on the fact that the subject problem is associated with corrosion, the FAA considers that a 5,000 flight hour/18-month interval represents the maximum time allowable for the affected airplanes to continue to operate prior to accomplishing the required inspections without compromising safety. Since maintenance schedules may vary from operator to operator, there would be no assurance that the inspection (and any necessary replacement) would be accomplished during that maximum interval. Therefore, to specify the interval as a "C"-check would not be appropriate.

The FAA cannot concur with the commenter who requested an extension if a permanently mounted fuel vapor sensor is installed, since the device has not been approved by the FAA for use in the affected airplanes for the specific purpose of detecting fuel leaks near a fuel booster pump. Since the certification process for approval of such a device may take many months, the FAA considers that, for the time being, revising the requirements of the AD in relation to the use of such a device is not appropriate.

**Request to Specify Flight Hours in Compliance Time Intervals**

One commenter requests that the proposal be revised to indicate that the various inspections and tests are required to be performed at intervals stated in terms of "flight hours." The proposal stated these compliance times in terms of "hours."

The FAA concurs, since this was the intent of those requirements. (The word "flight" was inadvertently omitted from the published version of the proposal.) The final rule has been corrected to indicate that the initial inspection is to be repeated at intervals not to exceed 5,000 **flight** hours or 18 months, whichever occurs first; and the insulation resistance test is to be repeated at intervals not to exceed 500 **flight** hours.

**Request to Allow Replacement with Other than "New" Fuel Pumps**

Several commenters request that the proposal be revised to allow the installation of other than "new" fuel pumps whenever replacement of the pump is required. These commenters point out that the reference to "new" fuel pump in the provisions of the proposed AD literally excludes the use of a refurbished or overhauled pump. Since both an overhauled and a new pump are airworthy, the commenters request that either be allowed to be installed as replacement parts. Another commenter points out that the use of the word "new" may create the misunderstanding that a replacement pump must be a "new model" or a later configuration.

The FAA concurs with the commenters' request, and has revised the provisions in the final rule to indicate that discrepant fuel pumps must be replaced with "new or serviceable" pumps.

**Request to Delete Resistance Test on Replacement Pumps**

Several commenters request that the proposal be revised to delete the requirement to perform an insulation resistance test of the fuel pump wiring after a fuel pump is replaced. The commenters maintain that the insulation resistance test provided in the Component Maintenance Manual (CMM) is more stringent than that provided in the referenced Boeing service bulletins. Several of these commenters (both U.S. and non-U.S. operators) state that all of the spare pumps in their inventories must pass an insulation resistance test in accordance with the CMM before they are put on the shelf. The commenters assert that, to require another resistance test immediately after a spare is installed as a replacement pump, is needlessly redundant.

The FAA does not concur with the commenters' request. While some operators may be conducting the resistance tests on the spares in their inventory, the FAA has no assurance that all operators are doing so. The FAA cannot assume that all operators, worldwide, are following such procedures. Further, the FAA has determined that the resistance test procedures described in the referenced Boeing service bulletins are both adequate and appropriate for detecting the sort of reduced resistance that would pose safety concerns. In light of these factors, the FAA finds no reason to delete the requirement for a resistance test of replaced fuel pumps prior to flight.

**Request to Allow Continued Flight If Replacement Pump is Unavailable**

One commenter requests that paragraph (a)(1)(i) of the proposal be revised to allow continued flight if the resistance measurement is less than or equal to 1 megohms and a new unit is not available. The proposal would require that the fuel pump be replaced prior to further flight. This commenter suggests that a pump that fails the insulation resistance test could be deactivated and the airplane be allowed to continue in service in accordance with the Minimum Equipment List (MEL) under the guidelines contained in sections 2-28-22-1 and 2-28-22-2 of the Boeing Dispatch Deviation Guide, Document D630N002. The failed pump should then be replaced as soon as a new unit is available.

The FAA does not concur with the commenter's request. The actions specified by this AD are intended to prevent fuel leakage in the area of the fuel boost and override

pumps; such leakage could result in a fire at the location of the affected fuel pump. Based on the safety implications associated with this unsafe condition, the FAA has determined that, if a pump is found to be defective during the inspections required by this AD, that pump must be replaced and the airplane must not continue to operate until the pump is replaced. The FAA finds no technical justification to permit further flight without an operative pump. Where there are differences between an AD and an MEL, the AD prevails.

Further, as indicated earlier, the FAA is not aware of any problem regarding obtaining replacement pumps as needed to comply with this AD. If operators are concerned about the availability of replacement parts, they should schedule the required inspections so that another pump is always available if needed for replacement.

**Request to Clarify Need for Fuel Pump Ground Continuity Check**

One commenter requests clarification as to whether a continuity check of the fuel pump ground wire is required as part of the insulation resistance test. The commenter does not consider the proposal to be clear on this.

The FAA considers that the requirement to conduct the continuity check was implicit in the proposal. The procedures for conducting the continuity check are clearly iterated in the same paragraph of the Accomplishment Instructions (of both Boeing service bulletins referenced in the proposal) as the procedures for the insulation resistance test. Since the continuity check of the ground wire is unquestionably a part of the required resistance test, it is required to be conducted for compliance with this AD. (As stated previously, the FAA considers the check to be an important step, without which the resistance test cannot be considered adequate.) To make this eminently clear to operators, however, the FAA has added NOTE 3 to paragraph (a) of the final rule to indicate that the continuity check of the pump ground wire is part of the insulation resistance test.

**Request to Revise Criteria of Insulation Resistance Test**

One commenter requests that paragraphs (a)(1)(ii), (a)(1)(iii), (a)(2)(ii), and (a)(2)(iii) be revised to specify that "all" resistance measurements must be greater than the indicated value in order to allow the continuation of inspections (rather than replacement of the fuel pump). There are three resistances to be measured, one per power pin, and all of them should register between 1 and 5 megohms or more than 5 megohms to be considered acceptable for remaining on the airplane. However, the wording in the proposal states that inspections are to be repeated if "any" resistance measurement is greater than the specific value; this implies that only one of the three power pins must meet this resistance requirement. The referenced service bulletin instructions specify that "all" of the pins should meet the requirement.

The FAA concurs that revision is necessary. It was the intent of the FAA to make the requirements of the AD as parallel as possible to the instructions and recommendations of the manufacturer's reference service bulletin. The final rule has been revised accordingly.

**Request to Allow Use of Alternative Equipment for Testing**

One commenter requests that the proposal be revised to indicate that use of testing equipment, other than that specified in the referenced Boeing service bulletins, is permitted when accomplishing the required inspections. The commenter first points out that the AVTRON Model T477W bonding meter called out in the Accomplishment Instructions of Boeing Service Bulletin 757-28A0043, Revision 1, does not measure the full range of acceptable resistance values (10 megohms or less). The commenter requests that use of this meter not be required. Additionally, the commenter states that it is nearly impossible to accomplish the resistance checks by pressing the meter probes against the electrical contacts of the motor. To facilitate obtaining these measurements, the commenter

recommends, instead, the use of a break-out box with a connector that mates to the pump; the commenter has used this method successfully on eight airplanes in its fleet. The commenter also states that other options are available, such as adapter leads for meter probes, and the proposal should reference these.

The FAA does not consider that a revision to the requirements of the AD is necessary. As for use of the AVTRON bonding meter, Boeing has reiterated to the FAA that this ohmmeter is perfectly appropriate for measuring low resistances, and is currently the only ohmmeter that can be used in areas where there is the potential existence of flammable fluids. As for the use of a break-out box or other equipment not specified in the referenced Boeing service bulletins, the FAA cannot comment without further data. However, under the provisions of paragraph (c) of the final rule, the FAA may approve requests for use of alternative methods of compliance if data are submitted to substantiate that such methods would provide an acceptable level of safety.

**Request for Terminating Action**

Two commenters request that the proposed rule be revised to include terminating action for the repetitive inspections.

The FAA cannot concur with these commenters, since a terminating action does not currently exist. The addressed unsafe condition is related to the problems associated with corrosion that occurs in the fuel pump assembly; unless the materials of the components themselves are changed to more corrosion-resistant materials, or unless the design of the assembly itself is totally reconfigured, there likely will be no terminating action in the very near future. However, via the reporting requirement included in this AD, the FAA will continue to monitor the on-going condition of this area within the fleet. If conditions warrant, the FAA may consider additional rulemaking action to ensure further improvements of the pump assembly.

**Request for Extension of Reporting Requirement**

Two commenters request that paragraph (b) of the proposal be revised to extend the time for submitting the initial inspection results from the proposed 10 days to 30 days. These commenters indicate that, due to the sheer volume of data required, especially of operators with large fleets, additional time will be needed to prepare a complete and comprehensive report of findings.

The FAA concurs and has revised paragraph (b) of the final rule accordingly.

The FAA has also revised paragraph (b) to indicate that operators who already accomplished the initial inspection prior to the effective date of the AD should submit the report within 30 days after the effective date.

**Request to Specify Additional Service Information**

Crane Company, Hydro-Aire Division, which the manufacturer of the fuel boost and override pumps, requests that the proposal be revised to cite Crane's Service Information Letter (SIL) 989-9-8, dated July 22, 1996, as an additional source of appropriate service instructions. This commenter states that the SIL provides detailed instructions regarding replacement of the connectors that exhibit resistance lower than the acceptable limits specified in the referenced Boeing service bulletins.

The FAA does not concur. The SIL provides instructions for repairing existing fuel pumps that require the replacement of electrical connectors. This information could be used for pump repair, but the FAA does not consider it necessary for accomplishing the actions required by this AD. The FAA finds that the information contained in the reference Boeing service bulletins is sufficient for conducting those actions properly.

**Conclusion**

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule

with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

**Cost Impact**

There are approximately 1,084 Model 747 series airplanes and 716 Model 757 series airplanes of the affected design in the worldwide fleet. Of these airplanes, 242 Model 747 series airplanes and 462 Model 757 series airplanes are of U.S. registry and will be affected by this AD.

For the 242 Model 747 series airplanes, it will take approximately 18 work hours per airplane to accomplish the required actions, at an average labor rate of $60 per work hour. Based on these figures, the cost impact of the AD on U.S. operators of Model 747 series airplanes is estimated to be $261,360, or $1,080 per airplane.

For the 462 Model 757 series airplanes, it will take approximately 12 work hours per airplane to accomplish the required actions, at an average labor rate of $60 per work hour. Based on these figures, the cost impact of the AD on U.S. operators of Model 757 series airplanes is estimated to be $332,640, or $720 per airplane.

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

**Regulatory Impact**

The regulations adopted herein will 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 final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) 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 final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends 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 adding the following new airworthiness directive:

**97-03-17 BOEING**: Amendment 39-9922. Docket 96-NM-57-AD.

Applicability: All Model 747 and 757 series airplanes, certificated in any category.

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the

owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent fuel leakage at the fuel boost and override/jettison pumps, which could result in a fire at the location of the affected fuel pump, accomplish the following:

(a) Within 120 days after the effective date of this AD, perform a visual inspection to detect discrepancies (i.e., fuel leak, heat discoloration, and damage) of the wire terminal assembly, electrical connector, and wire insulation on the fuel pump, in accordance with Boeing Service Bulletin 747-28A2194, Revision 1, dated January 18, 1996 (for Model 747 series airplanes), or Boeing Service Bulletin 757-28A0043, Revision 1, dated January 18, 1996 (for Model 757 series airplanes), as applicable.

NOTE 2: Inspections accomplished prior to the effective date of this AD in accordance with Boeing Service Bulletin 757-280043, dated November 7, 1995, are considered acceptable for compliance with the requirements of this paragraph.

(1) If no discrepancy is detected, prior to further flight, perform an insulation resistance test of the fuel pump wiring, in accordance with the Accomplishment Instructions of the applicable service bulletin.

NOTE 3: Each insulation resistance test of the fuel pump wiring includes a continuity check of the fuel pump ground wire, as specifically indicated in the Accomplishment Instructions of the applicable Boeing service bulletin(s).

(i) If any resistance measurement is less than or equal to 1 megohms, prior to further flight, replace the fuel pump with a new or serviceable fuel pump, in accordance with the applicable service bulletin. Prior to further flight following accomplishment of the replacement, repeat the insulation resistance test.

(ii) If all resistance measurements are greater than 1 megohm, but one or more are less than 5 megohms: Repeat the visual inspection and insulation resistance test within 500 flight hours, or replace the fuel pump with a new or serviceable fuel pump. Prior to further flight following accomplishment of the replacement, repeat the insulation resistance test.

(iii) If all resistance measurements are greater than or equal to 5 megohms, repeat the visual inspection and insulation resistance test within 5,000 flight hours or 18 months, whichever occur first.

(2) If any discrepancy is detected, prior to further flight, replace the fuel pump with a new or serviceable fuel pump, in accordance with the applicable service bulletin. Prior to further flight following accomplishment of the replacement, perform an insulation resistance test of the fuel pump wiring, in accordance with the Accomplishment Instructions of the applicable service bulletin.

(i) If any resistance measurement is less than or equal to 1 megohms, prior to further flight, replace the fuel pump with a new or serviceable fuel pump, in accordance with the applicable service bulletin. Prior to further flight following accomplishment of the replacement, repeat the insulation resistance test.

(ii) If all resistance measurements are greater than 1 megohm, but one or more are less than 5 megohms: Repeat the visual inspection and insulation resistance test within 500 flight hours, or replace the fuel pump with a new or serviceable fuel pump. Prior to further flight following accomplishment of the replacement, repeat the insulation resistance test.

(iii) If all resistance measurements are greater than or equal to 5 megohms, repeat the visual inspection and insulation resistance test within 5,000 flight hours or 18 months, whichever occur first.

(b) Within 30 days after accomplishing the initial visual inspection required by paragraph (a) of this AD, or within 30 days after the effective date of this AD, whichever is later, submit a report of the inspection results (both positive and negative findings) to the Manager, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2180; fax (206) 227-1181. Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

(c) 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 Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate. 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 4: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

(d) 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.

(e) Except as specified in NOTE 2 of this AD, the actions shall be done in accordance with Boeing Service Bulletin 747-28A2194, Revision 1, dated January 18, 1996 (for Model 747 series airplanes); or Boeing Service Bulletin 757-28A0043, Revision 1, dated January 18, 1996 (for Model 757 series airplanes); as applicable. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(f) This amendment becomes effective on March 14, 1997.

FOR FURTHER INFORMATION CONTACT:

G. Michael Collins, Aerospace Engineer, Seattle Aircraft Certification Office, Propulsion Branch, ANM-140S, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2689; fax (206) 227-1181.