

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 31135 6/11/2001]

[Docket No. 98-NM-298-AD; Amendment 39-12249; AD 2001-11-07]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737, 757, and 767 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 737, 757, and 767 series airplanes. This AD requires repetitive operational checks of certain motor-operated hydraulic shutoff valves to detect malfunctioning; replacement with new valves, if necessary; and eventual replacement of certain existing valves with new valves, which terminates the repetitive inspections. This amendment is prompted by reports that various intermittent limit-switch problems have caused valve failures. The actions specified by this AD are intended to prevent failure of the motor-operated hydraulic shutoff valves, which could result in leakage of hydraulic fluid to the engine fire zone, reduced ability to retract the landing gear, loss of backup electrical power or other combinations of failures; and consequent reduced controllability of the airplane.

DATES: Effective July 16, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 16, 2001.

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: Kenneth W. Frey, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2673; fax (425) 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 certain Boeing Model 737, 757, and 767 series airplanes was published as a supplemental notice of proposed rulemaking (NPRM) in the **Federal Register** on June 21, 2000 (65 FR 38450). That action proposed to require repetitive operational checks of certain motor-operated hydraulic shutoff valves to detect malfunctioning; replacement with new valves, if necessary; and eventual replacement of certain existing valves with new valves, which terminates the repetitive inspections.

Comments

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 concurred with the original notice of proposed rulemaking (NPRM), and that commenter submitted no additional comment to the supplemental NPRM.

Request to Clarify Subject Valves

Several commenters request that the FAA clarify the language in the original NPRM and supplemental NPRM to clarify what valves on the airplane are subject to the proposed AD. The

commenters point out that the referenced service bulletins apply only to valves in “sensitive system” applications (hereinafter referred to as “sensitive” applications). However, the language in the NPRM and supplemental NPRM does not clarify whether only valves with the subject part numbers (P/N) in “sensitive” applications are subject to the requirements of the proposed AD, or whether ALL valves with the subject P/N’s installed on the airplane are subject to the proposed AD, regardless of whether the valves are installed in “sensitive” or “non-sensitive” applications.

The FAA concurs with the commenters’ request for clarification. This AD is intended to apply only to the valves in locations listed in the referenced service bulletins—that is, valves in “sensitive” applications. The FAA has revised paragraphs (a) and (b) of this AD accordingly and added a new note, Note 1, after the applicability statement to clarify this issue. (Subsequent notes have also been reordered.)

Operators should note that, while the airplane manufacturer will issue new service bulletins with instructions for replacing valves in “non-sensitive” applications on the affected airplanes, at this time, the FAA does not plan to mandate replacing these valves.

Request to Reference New Service Information

Several operators request that the FAA revise the proposed AD to reference new service bulletins issued by Boeing.

The FAA concurs with the commenters’ request and—since the issuance of the supplemental NPRM—has reviewed and approved the following 10 new service bulletins:

- **Boeing Alert Service Bulletin 737-29A1073, Revision 3, including Appendices A and B, dated December 2, 1999:** This service bulletin revises Boeing Service Bulletin 737-29A1073, Revision 2, dated July 1, 1999, which was referenced as an appropriate source of service information in the supplemental NPRM. Revision 3 describes procedures for repetitive operational checks of certain motor-operated hydraulic shutoff valves to detect malfunctioning on certain Boeing Model 737-100, -200, -300, -400, and -500 series airplanes. The procedures in this bulletin are essentially similar to those in Revision 2; however, this service bulletin removes all Boeing Model 737-600, 737-700, and 737-800 series airplanes from the effectivity listing. (Boeing Model 737-600, -700, and -800 series airplanes have been included in a new service bulletin, which is described below.) This service bulletin also references a new service bulletin, described below, that describes replacement of the subject valves with new, improved valves, which ends the need for the repetitive operational checks.
- **Boeing Alert Service Bulletin 737-29A1081, including Appendices A and B, dated December 2, 1999:** This service bulletin describes procedures for repetitive operational checks of certain motor-operated hydraulic shutoff valves to detect malfunctioning on certain Boeing Model 737-600, 737-700, and 737-800 series airplanes. These procedures are essentially the same as those described in Boeing Alert Service Bulletin 737-29A1073, Revision 2, for these airplanes. This service bulletin also references a new service bulletin, described below, that describes replacement of the subject valves with new, improved valves, which ends the need for the repetitive operational checks.
- **Boeing Alert Service Bulletin 757-29A0048, Revision 3, including Appendices A and B, dated December 2, 1999:** This service bulletin revises Boeing Service Bulletin 757-29A0048, Revision 2, dated July 1, 1999, which was referenced as an appropriate source of service information in the supplemental NPRM. Revision 3 describes procedures for repetitive operational checks of certain motor-operated hydraulic shutoff valves to detect malfunctioning on certain Boeing Model 757 series airplanes. The procedures in this service bulletin are essentially similar to those in Revision 2; however, this service bulletin removes all Boeing Model 757-300 series airplanes from the effectivity listing. (Boeing Model 757-300 series airplanes have been included in a new service bulletin, which is described below.) This service bulletin also references a new service bulletin, described below, that describes replacement of the subject valves with new, improved valves, which ends the need for the repetitive operational checks.
- **Boeing Alert Service Bulletin 757-29A0051, including Appendices A and B, dated December 2, 1999:** This service bulletin describes procedures for repetitive operational checks of certain motor-operated hydraulic shutoff valves to detect malfunctioning on certain Boeing Model 757-300 series airplanes. These procedures are essentially similar to those described in Boeing Alert Service Bulletin 757-29A0048, Revision 2, for these airplanes. This service bulletin also references a new service bulletin, described below, that describes replacement of the subject valves with new, improved valves, which ends the need for the repetitive operational checks.

- **Boeing Service Bulletin 767-29A0083, Revision 4, including Appendix A, dated September 28, 2000:** This service bulletin revises Boeing Service Bulletin 767-29A0083, Revision 2, dated July 15, 1999, which was referenced as an appropriate source of service information in the supplemental NPRM. This service bulletin describes procedures for repetitive operational checks of certain motor-operated hydraulic shutoff valves to detect malfunctioning on certain Boeing Model 767 series airplanes. The procedures in this service bulletin are essentially similar to those in Revision 2. However, this service bulletin also corrects certain instructions for the functional test of two of the motor-operated hydraulic shutoff valves. The service bulletin states that the functional tests in previous revisions of the service bulletin, including Revision 2, could not be completed without the revised instructions contained in Revision 4.
- **Boeing Alert Service Bulletin 737-29A1078, dated December 7, 2000:** This service bulletin describes procedures for replacement of Circle Seal Controls valves in “sensitive” applications on certain Boeing Model 737-100, -200, -300, -400, and -500 series airplanes, with certain new Whittaker Controls valves or new, improved Circle Seal Controls valves. Such replacement terminates the repetitive operational checks described in Boeing Alert Service Bulletin 737-29A1073, Revision 3.
- **Boeing Alert Service Bulletin 737-29A1082, dated December 7, 2000:** This service bulletin describes procedures for replacement of Circle Seal Controls valves in “sensitive” applications on certain Boeing Model 737-600, -700, and -800 series airplanes, with certain new Whittaker Controls valves or new, improved Circle Seal Controls valves. Such replacement terminates the repetitive operational checks described in Boeing Alert Service Bulletin 737-29A1081.
- **Boeing Alert Service Bulletin 757-29A0049, dated December 7, 2000:** This service bulletin describes procedures for replacement of Circle Seal Controls valves in “sensitive” applications on certain Boeing Model 757-200 series airplanes, with certain new Whittaker Controls valves or new, improved Circle Seal Controls valves. Such replacement terminates the repetitive operational checks described in Boeing Alert Service Bulletin 757-29A0048, Revision 3.
- **Boeing Alert Service Bulletin 757-29A0052, dated December 7, 2000:** This service bulletin describes procedures for replacement of Circle Seal Controls valves in “sensitive” applications on certain Boeing Model 757-300 series airplanes, with certain new Whittaker Controls valves or new, improved Circle Seal Controls valves. Such replacement terminates the repetitive operational checks described in Boeing Alert Service Bulletin 757-29A0051.
- **Boeing Alert Service Bulletin 767-29A0090, dated December 7, 2000:** This service bulletin describes procedures for replacement of Circle Seal Controls valves in “sensitive” applications on certain Boeing Model 767 series airplanes, with certain new Whittaker Controls valves or new, improved Circle Seal Controls valves. Such replacement terminates the repetitive operational checks described in Boeing Service Bulletin 767-29A0083, Revision 4.

In view of the approval of these service bulletins by the FAA, we have revised paragraph (a) of this AD to specify Boeing Service Bulletins 737-29A1073, Revision 3 (for Model 737-100, -200, -300, -400, and -500 series airplanes), 737-29A1081 (for Model 737-600, -700, and -800 series airplanes), 757-29A0048, Revision 3 (for Model 757-200 series airplanes), 757-29A0051 (for Model 757-300 series airplanes), and 767-29A0083, Revision 4 (for Model 767 series airplanes); as applicable; as appropriate sources of service information for the requirements of that paragraph. The FAA has revised paragraph (b) of this AD to specify Boeing Alert Service Bulletins 737-29A1078 (for Model 737-100, -200, -300, -400, and -500 series airplanes), 737-29A1082 (for Model 737-600, -700, and -800 series airplanes), 757-29A0049 (for Model 757-200 series airplanes), 757-29A0052 (for Model 757-300 series airplanes), and 767-29A0090 (for Model 767 series airplanes), as appropriate sources of service information for the requirements of that paragraph.

In addition, the FAA has provided for airplanes on which the requirements of this AD have been accomplished before the effective date of this AD, by adding two new notes, Notes 3 and 4, which specify that operational checks and valve replacements done before the effective date of this AD per Boeing Alert Service Bulletins 737-29A1073, Revision 2, or 757-29A0048, Revision 2, both dated July 1, 1999; or 767-29A0083, Revision 2, dated July 15, 1999; as applicable; are acceptable for compliance with paragraphs (a) and (b) of this AD.

Also, the applicability statement of this final rule has been revised to specify airplanes listed in Boeing Service Bulletins 737-29A1073, Revision 3, 737-29A1081, 757-29A0048, Revision 3, 757-29A0051, and 767-29A0083, Revision 4. The FAA has determined that this change does not add any new airplanes to the applicability statement which were not included in the applicability statement of the proposed rule.

Allow Use of Serviceable Parts

Several commenters request that the FAA revise paragraph (a)(1) of the supplemental NPRM to allow replacement of malfunctioning Circle Seal Controls valves having P/N's S270T010-1 through -9, with new or serviceable Circle Seal Controls valves having P/N's S270T010-1 through -9. Paragraph (a)(1) of the supplemental NPRM requires replacement of a malfunctioning valve with a new Whittaker Controls valve, and paragraph (c) of the supplemental NPRM prohibits installation after the effective date of this AD of "any part identified in the 'Existing Part Number' column (including parts marked with the suffix "R" after the serial number), of Paragraph 2.E." of the applicable alert service bulletin. Parts listed in the "Existing Part Number" column are Circle Seal Controls valves having P/N's S270T010-1 through -9. The commenters state that prohibiting installation any new or serviceable valves with P/N's S270T010-1 through -9 imposes an undue burden on operators. Commenters are also concerned that airplanes needing replacement valves could be grounded if Whittaker Controls is unable to produce a sufficient amount of replacement parts.

The FAA concurs with the commenters' request to allow installation of serviceable parts. The FAA has revised paragraph (a)(2) of this AD to allow replacement of a malfunctioning valve with a new or serviceable replacement valve manufactured by Circle Seal Controls or Whittaker Controls. A valve replaced with a new or serviceable Circle Seal Controls valve having a P/N S270T010-1 through -9 will continue to be subject to repetitive operational checks per paragraph (a) of this AD, until the terminating action is accomplished per paragraph (b). Replacement of a valve with a new or serviceable Whittaker Controls valve or a new or serviceable Circle Seal Controls valve with P/N S270T010-10, -11, -12, -13, -14, or -15; as applicable; terminates the repetitive inspections for the replaced valve. Relevant to this change to paragraph (a)(1) of this AD, it is no longer necessary to include paragraph (c) of the supplemental NPRM in this AD. [Installation of a Circle Seal Controls valve having a P/N S270T010-1 through -9 is prohibited after 3 years after the effective date of this AD by virtue of the terminating action required by paragraph (b) of this AD.]

Request to Clarify Need for Repetitive Operational Checks

Two commenters request that the FAA clarify the requirements of paragraph (a)(1) of the supplemental NPRM. The commenters point out that paragraph (a)(1) of the supplemental NPRM requires replacement of any malfunctioning Circle Seal Controls valve with a new Whittaker Controls valve before further flight. However, that paragraph goes on to require repeating the operational check required by paragraph (a). The commenters point out that paragraph (b) of the supplemental NPRM states that replacement of Circle Seal Controls valves with new Whittaker Controls valves constitutes terminating action for the repetitive inspections required by paragraph (a) of this AD. Therefore, replacement parts installed per paragraph (a)(1) of this AD should not be subject to the repetitive operational checks.

The FAA concurs with the commenters' rationale. Replacement of all existing Circle Seal Controls valves with new Whittaker Controls valves does constitute terminating action for the requirements of paragraph (a) of this AD for the replaced valve. However, as stated previously, the FAA has revised this final rule to allow replacement of existing Circle Seal Controls valves with serviceable valves having certain part numbers. Accordingly, paragraph (a)(1) has been revised in this final rule, and paragraph (c) of the supplemental NPRM has not been included in this final rule. No further change to the final rule is needed in this regard.

Request to Allow Use of Certain Other Valves for Terminating Action

Several commenters request that the FAA revise the supplemental NPRM to allow use of certain valves manufactured by Circle Seal Controls, Inc., as terminating action for the repetitive operational checks in paragraph (a) of the proposed AD. The supplemental NPRM only allowed replacement of any Circle Seal Controls valve with a new Whittaker Controls valve as terminating action for the repetitive operational checks. (The original NPRM had referenced replacement with Circle Seal Controls valves

with part numbers (P/N) S270T010-10, -11, and -12, as terminating action. However, as explained in the supplemental NPRM, the FAA reviewed information regarding the failure rate of the valves and determined that the valves were not an adequate replacement.) The commenters' rationale for their requests includes the following:

- Boeing has found that initial failures of Circle Seal Controls valves with P/N's S270T010-10, -11, and -12 were due to improper rework rather than design flaws. Thus, Boeing now considers these Circle Seal Controls valves adequate for terminating action. Other commenters state that these Circle Seal Controls valves provide an equivalent level of safety to that provided by the Whittaker Controls valves.
- Some operators are concerned about Whittaker Controls' ability to produce an adequate supply of replacement parts within the three-year compliance time for the replacement required by this AD.
- Some operators point out that the supplemental NPRM does not require repetitive operational checks of Circle Seal Controls valves with P/N's S270T010-10, -11, and -12; therefore, these valves should be acceptable for terminating action.

The FAA concurs with the commenters' request to revise the final rule to allow use of certain Circle Seal Controls valves as terminating action for this AD's repetitive operational checks. The FAA finds that replacement of existing Circle Seal Controls valves with Circle Seal Controls valves with P/N S270T010-10, -11, -12, -13, -14, or -15; or with Whittaker Controls valves; is acceptable for doing the terminating action in paragraph (b) of this AD. Paragraph (b) of this AD has been revised accordingly.

While replacement with Circle Seal Controls valves with P/Ns S270T010-10, -11, and -12 is acceptable as terminating action, the FAA points out that these valves are not currently being manufactured by Circle Seal Controls. That company is only manufacturing P/Ns S270T010-13, -14, and -15 valves.

Request to Revise Preamble Language

One commenter requests that the FAA revise the "Discussion" section in the original NPRM and one sentence in the "Summary" section to more accurately explain what prompted the proposed AD. The sentence in the "Summary" explains that the proposal "was prompted by reports that the motor switch contacts on certain hydraulic shutoff valves were mis-aligned, causing subsequent malfunction of those valves." The commenter states that this statement could be misleading and requests that the FAA use a more general statement.

The FAA concurs with the commenter's request, and has revised the affected sentence in the summary of this final rule to state that this AD is prompted by reports that "various intermittent limit switch problems have caused valve failures." (As the "Discussion" section is not restated in this final rule, no change is necessary in that regard.)

Request to Allow Installation of Only Certain Valves

One commenter requests that the FAA NOT revise the supplemental NPRM to allow installation of Circle Seal Controls valves to be terminating action for the repetitive operational checks in this AD. The commenter states that Circle Seal Controls, Inc., has repeatedly failed to design and manufacture reliable valves. The commenter points out that each new design has met all of the airplane manufacturer's design criteria, passed all the appropriate tests, and been approved by the FAA. However, after each approval, the valves failed to function. The commenter also questions whether the FAA made an error in the applicability of the supplemental NPRM by making the AD apply only to Circle Seal Controls valves having P/N S270T010-1 through -9. The commenter requests that the AD also apply to Circle Seal Controls valves having P/N S270T010-10 through -12.

The FAA does not concur with the commenter's requests. Information provided by the manufacturer regarding the failure rate of Circle Seal Controls valves having P/N S270T010-10 through -12 resulted in the FAA removing these parts from the list of replacement parts acceptable for terminating action in the supplemental NPRM. However, since the issuance of the supplemental NPRM, the FAA has determined that the failures in Circle Seal Controls valves having P/N S270T010-10 through -12 were due to manufacturing errors, not design flaws. Also, further refinements in the design of P/N S270T010-13 through -15 have focused on improving the ease of manufacture and assembly of the valves. Thus, as stated previously, the FAA is revising this final rule to allow installation of either new Whittaker Controls valves or new Circle Seal Controls parts having P/N S270T010-10 through -15 as terminating action for

the requirements of this AD. The FAA finds that these parts will adequately ensure the continued safety of the airplane fleet. No further change to the final rule is necessary in this regard.

Request to Require Replacement of All Valves in All Locations

One of the commenters that requested clarification on which valves are subject to the proposed AD also requests that the FAA require replacement of ALL valves of the subject part numbers on the affected airplanes, not just those installed in locations listed in the service bulletins. The commenter's rationale is that, if the AD applies only to valves installed in "sensitive" applications, it will result in a "configuration control nightmare" for operators, with some valves being acceptable for installation in some applications on the affected airplanes, but not in other applications. The commenter's point is that valves may not be interchangeable from one location to another. Thus, operators will be forced to track the manufacturer of every valve and create customized maintenance instructions to ensure that correct valves are installed in the correct locations on the airplane.

Though the FAA acknowledges that operators will have to track the location of each valve to ensure that only the correct parts are installed in the locations identified in the referenced service bulletins, the FAA does not concur that it is necessary to require replacement of all valves of the affected part numbers, regardless of location, on the subject airplanes. Requiring replacement of all valves in all locations, "sensitive" and "non-sensitive," would place an undue burden on affected operators and may call into question the availability of replacement parts for the three-year compliance time. No change to the final rule is necessary in this regard.

Request to Extend Threshold/Repetitive Interval for Operational Checks

Two commenters request that the FAA increase the threshold and repetitive interval for the operational checks in paragraph (a) of the proposed AD. One commenter requests that the interval be increased from 6 months to 456 days; the other commenter requests an increase to 1 year. The first commenter states that the frequency of operational checks associated with the six-month interval may increase the likelihood of failure of the valves. The commenter bases its comment on the fact that, except for testing, the valves would normally only be operated during an emergency situation, and the six-month interval would add unnecessary cycles and may eventually contribute to an early failure of the valves. The other commenter states that there is no technical justification for the six-month threshold and interval because proper operation of the valves cannot be guaranteed no matter how frequent the operational checks. The commenters both state that an increased threshold and repetitive interval will still be adequate to ensure safety of flight.

The FAA does not concur with the commenters' requests. While the second commenter is correct that an operational check only guarantees the functionality of the valve for that one cycle and the valve could fail the next time it is cycled, the FAA finds that the operational check may be sufficient to detect valves that are likely to fail. In addition, the repetitive inspection interval of six months will ensure that a failed valve will be detected in a timely manner. No change to the final rule is necessary in this regard.

Request to Extend Compliance Time for Replacement

Several commenters request that the FAA revise the proposed rule to extend the three-year compliance time for the replacement in paragraph (b) of the proposed AD. Certain commenters state that three years is not enough time for operators to replace nearly 5,000 valves in the affected airplane fleet. One commenter suggests a compliance time of four years; another suggests four and a half years. Certain commenters express concern that the parts manufacturers may not be able to produce an adequate supply of parts for replacement of affected valves on the entire affected worldwide fleet within the three-year compliance time. The commenters state that repetitive operational checks at six-month intervals, as required by paragraph (a) of this AD, should provide an adequate level of safety until valves can be replaced.

The FAA does not concur with the commenters' request for an extension of the compliance time for paragraph (b) of this AD. The compliance time for the replacement of existing Circle Seal Controls valves was extended from two years to three years in the supplemental NPRM. The FAA finds that three years is the maximum time that affected airplanes may be allowed to continue to operate with the older-design Circle Seal Controls valves installed. Based on commitments by Whittaker Controls, the FAA finds that an adequate supply of replacement parts will be available within the three-year compliance time for replacement the subject valves on affected airplanes. No change to the final rule is necessary in this regard.

Request to Revise Cost Estimate

Two commenters ask the FAA to revise the cost impact information presented in the proposed rule. One of the commenters states that, for the operational check on Model 757 series airplanes, it finds 12 work hours to be a more accurate estimate than the 3 hours stated in the proposal. The other commenter states that the FAA has “grossly underestimated” the costs associated with this AD: the estimated inspection cost is for a single operational check, but the check will be required twice per year until accomplishment of the terminating action. The second commenter also states that if the cost estimate is intended to reflect the cost of replacing all Circle Seal Controls valves (i.e., in “sensitive” and “non-sensitive” applications), the FAA’s underestimation is worse.

The FAA does not concur with the commenters’ request to revise the cost impact information. The cost impact information describes only the “direct” costs of the specific actions required by this AD. The number of work hours necessary to accomplish the required actions is based on the manufacturer’s estimate provided in the service bulletin, excluding the time necessary to gain access and close up. The estimate represents the time necessary to perform only the actions actually required by this AD. The FAA recognizes that, in accomplishing the requirements of any AD, operators may incur “incidental” costs in addition to the “direct” costs. The cost analysis in AD rulemaking actions, however, typically does not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions. Because incidental costs may vary significantly from operator to operator, they are almost impossible to calculate.

With regard to the commenter’s observation that the cost impact estimate is only for a single operational check, the FAA points out that the cost estimate states that the cost is “per operational check.”

With regard to the commenter’s observation about replacement of all Circle Seal Controls valves versus replacement of all valves specified in the service bulletin: as stated previously, this AD only requires replacement of the valves stated in the applicable service bulletin.

No change to the final rule is necessary in this regard.

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 3,029 Boeing Model 737 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 1,234 airplanes of U.S. registry will be affected by this AD, and that it will take approximately 2 work hours per airplane to accomplish the required operational check, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this requirement on U.S. operators of these airplanes is estimated to be \$148,080, or \$120 per airplane, per operational check.

There are approximately 802 Boeing Model 757 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 558 airplanes of U.S. registry will be affected by this AD, and that it will take approximately 3 work hours per airplane to accomplish the required operational check, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this requirement on U.S. operators of these airplanes is estimated to be \$100,440, or \$180 per airplane, per operational check.

There are approximately 701 Boeing Model 767 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 280 airplanes of U.S. registry will be affected by this AD, and that it will take approximately 4 work hours per airplane to accomplish the required operational check, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this requirement on U.S. operators of these airplanes is estimated to be \$67,200, or \$240 per airplane, per operational check.

For all airplanes, it will take approximately 5 work hours per valve to accomplish the replacement required by this AD, at an average labor rate of \$60 per work hour. Required parts and hydraulic fluid will cost approximately \$4,316 per airplane. Based on these figures, the cost impact of the valve replacements required by this AD on U.S. operators is estimated to be \$4,616 per airplane, per valve replacement. This AD will require eventual replacement of approximately 5,000 valves.

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. The cost impact figures discussed in AD rulemaking

actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect 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, it is determined that this final rule does not have federalism implications under Executive Order 13132.

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:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-11-07 BOEING: Amendment 39-12249. Docket 98-NM-298-AD.

Applicability: Model 737, 757, and 767 series airplanes, certificated in any category, as listed in the following Boeing Service Bulletins:

Table 1. Effectivity.

Boeing Service Bulletin	Date	Affected Models/Series
737-29A1073, Revision 3	December 2, 1999	Model 737-100, -200, -300, -400, and -500
737-29A1081	December 2, 1999	Model 737-600, -700, and -800
757-29A0048, Revision 3	December 2, 1999	Model 757-200
757-29A0051	December 2, 1999	Model 757-300
767-29A0083, Revision 4	September 28, 2000	Model 767

Note 1: Only motor operated hydraulic shutoff valves manufactured by Circle Seal Controls that are installed in the locations specified in the applicable alert service bulletin listed in the table above are subject to this AD.

Note 2: 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 failure of the motor operated hydraulic shutoff valves, which could result in leakage of hydraulic fluid to the engine fire zone, reduced ability to retract the landing gear, loss of backup electrical power or other combinations of failures, and consequent reduced controllability of the airplane, accomplish the following:

Repetitive Operational Checks/Corrective Action

(a) Within 6 months after the effective date of this AD: Perform an operational check to detect malfunctioning of any Circle Seal Controls motor operated hydraulic shutoff valve in a "sensitive system" application (as defined in the applicable service bulletin) having a part number specified in the "Existing Part Number" column (including parts marked with the suffix "R" after the serial number), of Paragraph 2.E. of Boeing Alert Service Bulletins 737-29A1073, Revision 3 (for Model

737-100, -200, -300, -400, and -500 series airplanes), 737-29A1081 (for Model 737-600, -700, and -800 series airplanes), 757-29A0048, Revision 3 (for Model 757-200 series airplanes), or 757-29A0051 (for Model 757-300 series airplanes); all dated December 2, 1999; or Boeing Service Bulletin 767-29A0083, Revision 4, dated September 28, 2000 (for Model 767 series airplanes); as applicable; in accordance with the applicable service bulletin.

(1) If any malfunction of any valve is detected, prior to further flight, replace the valve with a new or serviceable Whittaker Controls or Circle Seal Controls valve in accordance with the applicable service bulletin. Repeat the operational check thereafter at intervals not to exceed 6 months until accomplishment of the terminating action required by paragraph (b) of this AD on all subject valves.

(2) If no malfunction of any valve is detected, repeat the operational check thereafter at intervals not to exceed 6 months until accomplishment of the terminating action required by paragraph (b) of this AD on all subject valves.

Note 3: Operational checks done before the effective date of this AD per Boeing Alert Service Bulletin 737-29A1073, Revision 2 (for Model 737 series airplanes), or 757-29A0048, Revision 2 (for Model 757 series airplanes), both dated July 1, 1999; or 767-29A0083, Revision 2, dated July 15, 1999 (for Model 767 series airplanes); as applicable; is acceptable for compliance with paragraph (a) of this AD.

Terminating Action

(b) Within 3 years after the effective date of this AD, accomplish the replacement of any Circle Seal Controls valve in a “sensitive system” application (as defined in the applicable service bulletin) having a P/N specified in the “Existing Part Number” column (including parts marked with the suffix “R” after the serial number), of Paragraph 2.E. of Boeing Alert Service Bulletin 737-29A1078 (for Model 737-100, -200, -300, -400, and -500 series airplanes), 737-29A1082 (for Model 737-600, -700, and -800 series airplanes), 757-29A0049 (for Model 757-200 series airplanes), 757-29A0052 (for Model 757-300 series airplanes), or 767-29A0090 (for Model 767 series airplanes); all dated December 7, 2000; as applicable. Replace an existing part with a new Whittaker Controls valve having a P/N specified in the “New Part Number” column of Paragraph 2.E. of the applicable service bulletin; or with a new Circle Seal Controls valve having P/N S270T010-10, -11, -12, -13, -14, or -15; as applicable. Do the replacement in accordance with the applicable alert service bulletin. Accomplishment of this replacement constitutes terminating action for the repetitive operational checks required by this AD.

Note 4: Replacement of Circle Seal Controls valves done before the effective date of this AD per Boeing Alert Service Bulletin 737-29A1073, Revision 2 (for Model 737 series airplanes), or 757-29A0048, Revision 2 (for Model 757 series airplanes), both dated July 1, 1999; or 767-29A0083, Revision 2, dated July 15, 1999 (for Model 767 series airplanes); as applicable; is acceptable for compliance with paragraph (b) of this AD.

Alternative Methods of Compliance

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

Special Flight Permits

(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.

Incorporation by Reference

(e) The actions shall be done in accordance with Boeing Alert Service Bulletin 737-29A1073, Revision 3, dated December 2, 1999; Boeing Alert Service Bulletin 737-29A1081, dated December 2, 1999; Boeing Alert Service Bulletin 757-29A0048, Revision 3, dated December 2, 1999; Boeing Alert Service Bulletin 757-29A0051, dated December 2, 1999; Boeing Service Bulletin 767-29A0083, Revision 4, dated September 28, 2000; Boeing Alert Service Bulletin 737-29A1078, dated December 7, 2000; Boeing Alert Service Bulletin 737-29A1082, dated December 7, 2000; Boeing Alert Service Bulletin 757-29A0049, dated December 7, 2000; Boeing Alert Service Bulletin 757-29A0052, dated December 7, 2000; or Boeing Alert Service Bulletin 767-29A0090, dated December 7, 2000; 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.

Effective Date

(f) This amendment becomes effective on July 16, 2001.

FOR FURTHER INFORMATION CONTACT: Kenneth W. Frey, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2673; fax (425) 227-1181.

Issued in Renton, Washington, on May 25, 2001.

Vi L. Lipski, Manager, Transport Airplane Directorate, Aircraft Certification Service.