14 CFR Part 39

[Docket No. 96–NM–121–AD; Amendment 39–9858 ; AD 96–25–15]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 727–200 Series Airplanes; McDonnell Douglas MD–11 Airplanes; and British Aerospace Avro Model 146–RJ Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain transport category airplanes equipped with certain Honeywell Standard Windshear Detection System (WSS). It requires a revision to the airplane flight manual to alert the flightcrew of the potential for significant delays in the WSS detecting windshear when the flaps of the airplane are in transition. This amendment also requires replacement of the currently-installed line replaceable unit (LRU) with a modified LRU having new software that eliminates delays in the WSS. This amendment is prompted by a report of an accident during which an airplane encountered severe windshear during a missed approach. The actions specified by this AD are intended to prevent significant delays in the WSS detecting hazardous windshear, which could lead to the loss of flight path control.

EFFECTIVE DATE: January 23, 1997.

ADDRESSES: Information pertaining to this rulemaking action may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California.

FOR FURTHER INFORMATION CONTACT: J. Kirk Baker, Aerospace Engineer, Systems and Equipment Branch, ANM–130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712; telephone (310) 627–5345; fax (310) 627–5210.

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 transport category airplanes equipped with certain Honeywell Standard Windshear Detection System (WSS) series airplanes was published in the Federal Register on September 13, 1996 (61 FR 48431). That action proposed to require a revision to the FAA-approved AFM to alert the flightcrew of the potential for significant delays in the WSS detecting windshear when the flaps of the airplane are in transition. That action also proposed to require replacement of the currently-installed LRU with a modified LRU having new software that eliminates delays in the WSS.

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

Request To Eliminate Installation Requirement

One commenter objects to paragraph (b) of the proposal, which would require operators to replace the currently installed LRU with a modified LRU having new software that eliminates delays in the WSS detecting windshear when the flaps of the airplane are in transition. This commenter considers that the proposed replacement would not enhance safety of the affected airplanes. This commenter also asserts that the proposed replacement requirement would result in changes in the aircraft configuration that would increase nuisance alerts, since the sensitivity reduction factor would be totally eliminated during flap transition.

The FAA does not concur with the commenter's request to withdraw the proposal for the following reasons:

First, the criteria for reactive windshear systems state that a warning must be issued once a windshear phenomenon is encountered. The criteria also state that the system must consider the airplane's available performance and the system's propensity for nuisance alerts due to turbulence. The FAA evaluates compliance with these criteria based upon the system's ability to issue timely warnings in all reasonably expected conditions. The FAA finds that encountering windshear during flap transition is a reasonably expected condition. This finding is based, in part, on the data obtained from the flight data recorder retrieved from the airplane involved in the accident in which windshear was encountered while the airplane was executing a missed approach.

Second, the FAA has determined that conducting missed approaches, prior to encountering windshear, is a reasonably probable scenario. In such a scenario, the pilot would rely on prior knowledge attained in FAA-required training to recognize and recover from a windshear encounter, such as that provided in ''Windshear Training Aid,'' Revision 1, dated February 1990. Therefore, the pilot would likely determine that windshear has been encountered before the detection system actually detects the phenomenon, since the WSS is intended to be strictly an adjunct system, not a sole or primary system. The windshear training that pilots receive instructs them not to retract the airplane's flaps in this scenario. However, if the pilot does not believe that windshear has been encountered, the pilot may execute a normal go-around and retract the flaps, due to what the pilot perceives to be an unstable approach. Therefore, the FAA considers any delay in windshear detection to be unacceptable while the airplane's flaps are in transition. Consequently, the FAA finds that any improvement in warning time for the pilot will enhance safety for the affected airplanes.

Third, the FAA does not concur with the commenter's assertion that installation of a modified LRU, and consequently, removal of the windshear warning delay during flap transition, would result in an increase in nuisance alerts. The FAA has reviewed all available data and cannot substantiate that elimination of the sensitivity reduction factor during flap transition would result in an increase in nuisance alerts. The FAA finds that the flaps are usually extended at altitudes higher than the altitude at which the system is armed. Furthermore, the FAA considers conducting a go-around with strong turbulence (excluding actual windshear conditions) to be a highly unlikely combination of events. In addition, the FAA will evaluate the modified Honeywell windshear computer, once it is developed, to determine compliance with the nuisance alert criteria, discussed above.

Request To Reconsider Compliance Time for Replacement

This same commenter requests that the FAA reconsider the proposed compliance time of 30 months for replacement of the LRU with a modified unit. The commenter points out that Honeywell has neither developed an appropriate modification nor released service bulletins to provide the procedural methods for complying with the requirements of the proposed AD. The commenter notes that the same is true for compliance with AD 96–02–06, amendment 39–9494 (61 FR 2095, January 25, 1996), which requires identical actions as those proposed, but applicable to certain other transport category airplanes.

This commenter also points out that AD 96–02–06 provides for a compliance time of 36 months for the replacement;

the AD also states that, as of 18 months after February 26, 1996 (the effective date of that AD), no unmodified LRU can be installed on any airplane. The proposed AD's compliance times are 30 months for replacement, and 12 months before installation of unmodified units is prohibited.

Although this commenter did not request any specific changes to the proposed rule, the FAA infers from these comments that the commenter is concerned that there will be a problem with parts availability within the compliance time. At the time that AD 96–02–06 was issued in January 1996, the FAA had verified with the manufacturer that the lead time for developing the required LRU and making it available to operators was expected to be longer than 24 months, but not longer than 36 months. Since then, the manufacturer has given the FAA no new information that would change this schedule for availability of the required units; therefore, the FAA finds that the compliance times, as proposed, are appropriate.

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 as proposed.

Cost Impact

There are approximately 200 airplanes of the affected design in the worldwide fleet. The FAA estimates that 100 airplanes of U.S. registry will be affected by this AD.

It will take approximately 1 work hour per airplane to accomplish the required AFM revision, at an average labor rate of $60 per work hour. Based on these figures, the cost impact of the AFM revision required by this AD on U.S. operators is estimated to be $6,000, or $60 per airplane.

It will take approximately 10 work hours per airplane to accomplish the required replacement, at an average labor rate of $60 per work hour. Required parts will be supplied by Honeywell at no cost to the operators. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be $60,000, or $600 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, 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:

96–25–15 Boeing; McDonnell Douglas; and British Aerospace Regional Aircraft Limited, AVRO International Aerospace Division (Formerly British Aerospace, plc; British Aerospace Commercial Aircraft Limited): Amendment 39–9858. Docket 96–NM–121–AD.

Applicability: The following models and series of airplanes, certificated in any category, equipped with Honeywell Standard Windshear Detection Systems (WSS) having the part numbers indicated below:

Manufacturer and model of airplane	Type of computer	Part No.
Boeing 727–200 series.	Expandable Windshear (Honeywell STC).	4053818–904, -905, or -906.
McDonnell Douglas MD–11 series.	Flight Control Computer (OEM TC).	4059001–906.
British Aerospace Avro 146–RJ70A, -RJ85A, and -RJ100A series.	Flight Control Computer (OEM TC).	4068300–903.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been otherwise 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 (d) 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 significant delays in the Honeywell Standard Windshear Detection Systems (WSS) detecting hazardous windshear, which could lead to the loss of flight path control, accomplish the following:

(a) Within 14 days after the effective date of this AD, revise the Limitations Section of the FAA-approved Airplane Flight Manual (AFM) to include the following statement. This may be accomplished by inserting a copy of this AD in the AFM.

''During sustained banks of greater than 15 degrees or during flap configuration changes, the Honeywell Windshear Detection and Recovery Guidance System (WSS) is desensitized and alerts resulting from encountering windshear conditions will be delayed.''

(b) Within 30 months after the effective date of this AD, replace the currently-installed line replaceable unit (LRU) with a modified LRU having new software that eliminates delays in the WSS detecting windshear when the flaps of the airplane are in transition, in accordance with a method approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate. Accomplishment of this replacement constitutes terminating action for the requirements of paragraph (a) of this AD. After the replacement has been accomplished, the AFM limitation required by paragraph (a) of this AD may be revised to read as follows:

''During sustained banks of greater than 15 degrees, the Honeywell Windshear Detection and Recovery Guidance System (WSS) is desensitized and alerts resulting from encountering windshear conditions will be delayed.''

(c) As of 12 months after the effective date of this AD, no person shall install on any airplane an LRU that has not been modified in accordance with paragraph (b) of this AD. However, an unmodified LRU may be installed on the airplane for up to 12 months after the effective date of this AD, provided that, during that time, the AFM limitation required by paragraph (a) of this AD remains in effect.

(d) 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, Los Angeles ACO. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

(e) 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.

(f) This amendment becomes effective on January 27, 1997.

Issued in Renton, Washington, on December 11, 1996.

James V. Devany,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 96–32050 Filed 12–18–96; 8:45 am]

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14 CFR Part 39

[Docket No. 95–CE–99–AD; Amendment 39–9841; AD 96–24–17]

RIN 2120–AA64

Airworthiness Directives; The Don Luscombe Aviation History Foundation Models 8, 8A, 8B, 8C, 8D, 8E, 8F, T–8F Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that applies to The Don Luscombe Aviation History Foundation (referred to as Luscombe from hereon) Models 8, 8A, 8B, 8C, 8D, 8E, 8F, T–8F airplanes. This action requires installing new inspection holes, modifying the wing tip fairings, and inspecting the wing spars for intergranular corrosion. Reports of intergranular corrosion occurring in the wings prompted this action. The actions specified by this AD are intended to prevent wing spar failure resulting from intergranular corrosion, which, if not detected and corrected, could result in structural failure of the wings and loss of control of the airplane.

DATES: Effective January 27, 1997.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 27, 1997.

ADDRESSES: Service information that applies to this AD may be obtained from The Don Luscombe Aviation History Foundation, P. O. Box 63581, Phoenix, Arizona 85082; telephone (602) 917–0969 and facsimile (602) 917–4719. This information may also be examined at the Federal Aviation Administration (FAA), Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket 95–CE–99–AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Ms. Lirio L. Liu, Aerospace Engineer, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Blvd., Lakewood, California, 90712; telephone (310) 627–5229; facsimile (310) 627–5210.

SUPPLEMENTARY INFORMATION:

Events Leading to This Action

A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to Luscombe Models 8, 8A, 8B, 8C, 8D, 8E, 8F, T–8F airplanes was published in the Federal Register on May 29, 1996 (61 FR 26854). The action proposed to require installing a total of four additional wing inspection holes in the metal covered wings to assist in conducting a more thorough examination of the wing spars, modifying the wing tip fairing so that it is removable, and providing easier access to the interior of the wings. A one time inspection for intergranular corrosion was proposed for both metal covered and fabric covered wings on these Luscombe airplanes in the areas of the front and rear spar extrusions of the wing installations.

Related Service Information

Accomplishment of the proposed action would be in accordance with The Don Luscombe Aviation History Foundation Recommendation #2, dated December 15, 1993, Revised November 21, 1995.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Comments were received from three commenters on the proposed rule and no comments were received on the FAA's determination of the cost to the public. Following are the comments and FAA's response.

The first commenter agreed with the content of the AD, but proposed an alternative method for gaining access to the wing spars of the metal covered wings, rather than installing the four additional inspections holes required by the Don Luscombe Aviation History Foundation Service Recommendation #2.

The FAA concurs and has found the alternative method acceptable. This change is justified based on the submittal of analysis and acceptability of the method to meet the intent of the AD. Therefore, the alternative method procedure suggested by the commenter has been included as an Appendix to this AD as an option to paragraphs (a)(1) and (a)(2) of this AD.

The second commenter states that, based on their empirical field evidence and maintenance experience, a one-time inspection is inadequate and a repetitive inspection on a bi-annual basis should be required.

The FAA does not agree. The corrosive problems prompting this AD are intergranular corrosion. This type of corrosion is an attack along the grain boundaries of a material (reference Advisory Circular (AC) 43–4A, Corrosion Control of Aircraft, dated July 25, 1991). Aluminum alloys which contain appreciable amounts of copper and zinc are highly vulnerable to intergranular corrosion if the alloy is not quenched rapidly during heat treatment or other special treatment. This is the case for the Luscombe Models 8, 8A, 8B, 8C, 8D, 8E, 8F, T–8F airplane wing spars. The intergranular corrosion is a result of manufacturing, which affected only a small number of wing spars in the fleet. If intergranular corrosion has affected the spars, it should be detectable with a one-time inspection, given the age of the fleet in service.

The third commenter states that the inspection for only intergranular corrosion is inadequate and that a repetitive inspection on a bi-annual basis should be required to inspect for all other forms of corrosion which may be attributed to rodent and bird infestation nest residue, which is corrosive to aluminum.

The FAA partially agrees and partially disagrees with this statement. The FAA