

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NM-283-AD; Amendment 39-12568; AD 2001-26-04]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model DC-8 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain McDonnell Douglas Model DC-8 series airplanes that have been converted from a passenger-to a cargo-carrying ("freighter") configuration, that requires, among other actions, modification of the main deck cargo door structure and fuselage structure; replacement of fasteners in the two door-side hinge elements; modification of the main deck cargo floor; and installation of a main deck cargo 9g crash barrier. The actions specified by this AD are intended to prevent opening of the cargo door while the airplane is in flight, and consequent rapid decompression of the airplane including possible loss of flight control or severe structural damage. These actions are intended to address the identified unsafe condition.

DATES: Effective January 30, 2002.

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

FOR FURTHER INFORMATION CONTACT: Michael E. O'Neil, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5320; fax (562) 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 McDonnell Douglas Model DC-8 series airplanes that have been converted from a passenger-to a cargo-carrying ("freighter") configuration was published in the Federal Register on September 27,

2000 (65 FR 58203). That action proposed to require, among other actions, modification of the main deck cargo door structure and fuselage structure; replacement of fasteners in the two door-side hinge elements; modification of the main deck cargo floor; and installation of a main deck cargo 9g crash barrier.

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.

Request To Revise Compliance Times

One commenter requests that the compliance times specified in paragraph (b) of the proposed AD be revised from "Within 2 years or 2,000 flight cycles after the effective date of this AD, whichever occurs first" to "within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first." The commenter contends that if the inspection and evaluation required by that paragraph reveals a discrepancy, the corrective modification will be extensive. The commenter states that such an extension would allow operators to correct discrepancies at one maintenance visit, and thus, minimize airplane downtime.

The FAA agrees. Since issuance of the NPRM, we have gained a better understanding of the design feature of the original modification relative to the vertical side restraint installation and decompression venting. We have determined that the structure is sufficiently robust, and that accomplishing the required inspection, evaluation, and modification, if necessary, required by paragraph (b) of this AD "within 3 years or 4,000 flight hours after the effective date of this AD, whichever occurs first," will provide an acceptable level of safety. For the same reasons, we also find that the 2-year compliance time for the modification required by paragraph (e) of this AD can be extended to "within 3 years or 4,000 flight hours after the effective date of this AD, whichever occurs first." Therefore, we have revised the compliance times of paragraphs (b) and (e) of the final rule accordingly.

The same commenter requests that the compliance time specified in paragraph (f)(2) of the proposed AD be revised from "Within 2 years or 2,000 flight hours after the effective date of this AD, whichever occurs first" to "within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first." The commenter states that postponing the replacement for another year will not adversely affect safety, because incorporating inspections into the operator's FAA-approved maintenance or inspection program within 1 year, as required by paragraph (a)(1) of the proposed AD, will provide an acceptable level of safety. The commenter also states that a 3-year compliance time would allow it to perform the proposed replacement concurrently with the major rework on the door structure, and thus, reduce airplane downtime.

Based on the commenter's reasons, the FAA agrees to extend the compliance time for the replacement required by paragraph (f)(2) of this AD. Extending the compliance time to "within 3 years or 4,000 flight cycles" will not adversely affect safety and will allow the replacement to be performed at a base during regularly scheduled maintenance where special equipment and trained maintenance personnel will be available if necessary. We have revised paragraph (f)(2) of the final rule to specify a compliance time of "within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first." It should be noted that we inadvertently used "flight hours" instead of "flight cycles" in paragraphs (f)(1) and (f)(2) of the NPRM. Therefore, we have revised that term to read "flight cycles" in paragraphs (f)(1) and (f)(2) of the final rule, as was used in other paragraphs of the NPRM.

Request To Provide an Alternate Means of Compliance

The commenter also requests that paragraph (a)(2)(i) of the proposed AD be revised to include an option that states: "Main deck zone loading can be limited as approved by manager LA ACO in such a manner that no modification is required for the main deck floor structure. This will eliminate the requirement for Alternate Means of Compliance." The commenter notes that under the heading "3. Capability of the Unmodified Floor" in the preamble of the proposed AD, it states "It is also possible to limit the main deck zone loading to a level that the main deck cargo floor can be supported safely without modification." The commenter states that the analysis performed by the DC-8 Cargo Conversion Joint Task Force and FAA has shown that the main deck floor modified per Supplemental Type Certificate (STC) SA1802SO or SA421NW is capable of carrying the zone loads equivalent to Aeronavali modified airplanes.

The FAA consulted with the commenter to clarify its reference to paragraph (a)(2)(i) of the proposed AD. The commenter meant to refer to paragraph (c) of the proposed AD. We do not agree with the commenter's request to revise paragraph (c) of the final rule. We find that the option suggested by the commenter would require operators to obtain a separate approval from the Manager of the Los Angeles Aircraft Certification Office (ACO). Adding the commenter's statement in the AD would not save us or the operators any resources, because, like the requirements of paragraph (c) of this AD, it also would require operators to submit a letter and substantiating data to us for review. The difference between the two letters would be in name only (i.e., alternate method of compliance vs. approved method of compliance). Therefore, no change to paragraph (c) of the final rule is necessary.

Approval of Supplemental Type Certificate (STC)

Since issuance of the NPRM, the FAA has reviewed and approved STC ST01181LA (held by Structural Integrity Engineering (SIE)). We find that this STC provides an acceptable means of compliance with the requirements of paragraphs (a) through (g) of this AD. Therefore, we have revised the final rule to include a new Note 2 to reference the applicable STC as a source of service information for accomplishing the requirements of paragraphs (a) through (g) of this AD.

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 32 Model DC-8 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 29 airplanes of U.S. registry would be affected by this proposed AD. The following table shows the estimated cost impact for airplanes affected by this AD. The average labor rate is \$60 per work hour. The estimated maximum total cost for all airplanes affected by this proposed AD is \$6,718,140, or \$231,660 per airplane.

Action	Work hours (estimated)	Parts cost (estimated)	Total cost (estimated)
Incorporation of inspections into maintenance or inspection program.	8	N/A	\$13,920, or \$480 per airplane.
Modification of main deck cargo door structure and fuselage structure.	1,420	\$6,500	\$2,659,300, or \$91,700 per airplane.
Inspection of exposed surfaces of main deck cargo door hinge.	16	N/A	\$27,840, or \$960 per airplane.
Replacement of the existing fasteners in the two door-side hinge elements.	60	\$100	\$107,300, or \$3,700 per airplane.
Inspection and evaluation of the cargo handling system.	16	N/A	\$27,840, or \$960 per airplane.
Modification of main deck cargo floor.....	40	\$500	\$84,100, or \$2,900 per airplane.
Inspection and evaluation of the venting system.	16	N/A	\$27,840, or \$960 per airplane.
Installation of main deck cargo 9g crash barrier.	1,500	\$40,000	\$3,770,000, or \$130,000 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. 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, 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.

Sec. 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).

2001-26-04 McDonnell Douglas: Amendment 39-12568. Docket 2000-NM-283-AD.

Applicability: Model DC-8 series airplanes that have been converted from a passenger-to a cargo-carrying ("freighter") configuration in accordance with Supplemental Type Certificate (STC) SA1802SO or SA421NW; certificated in any category.

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 (h) 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.

Note 2: Installation of Structural Integrity Engineering (SIE) STC ST01181LA, is an approved means of compliance with the requirements of paragraphs (a) through (g) of this AD.

To prevent opening of the cargo door while the airplane is in flight or collapse of the main deck cargo floor, and consequent rapid decompression of the airplane including possible loss of flight control or severe structural damage, accomplish the following:

Actions Addressing the Main Deck Cargo Door and Associated Fuselage Structure

(a) Accomplish the actions specified in paragraphs (a)(1) and (a)(2) of this AD in accordance with a method approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA.

(1) Within 1 year or 1,200 flight cycles after the effective date of this AD, whichever occurs first, incorporate inspections into the operator's FAA-approved maintenance or inspection program that ensure the continued operational safety of the airplane. These inspections should be based on a damage tolerance assessment that identifies any principal structural element (PSE) associated with the STC modification and should include associated inspection thresholds, inspection methods, and repetitive inspection intervals.

(2) Within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first, accomplish the actions specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this AD.

(i) Modify the main deck cargo door structure and fuselage structure immediately surrounding the main deck cargo door to comply with the applicable requirements of Civil Air Regulations (CAR) part 4b.

(ii) Incorporate inspections into the operator's FAA-approved maintenance or inspection program that ensure the continued operational safety of the airplane. These inspections should be based on a damage tolerance assessment that identifies any PSE associated with the STC modification required by paragraph (a)(2)(i) of this AD and should include associated inspection thresholds, inspection methods, and repetitive inspection intervals.

Actions Addressing the Main Deck Cargo Floor

(b) Within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first, perform an inspection and evaluation of the cargo handling system to determine if the side restraints provide the support required by the unit load devices (ULD), in accordance with a method approved by the Manager, Los Angeles ACO. If any vertical side restraint does not provide the required support, within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first, modify the vertical side restraint to provide the support appropriate to the ULD's compatible with the cargo handling system, in accordance with a method approved by the Manager, Los Angeles ACO.

(c) Within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first, modify the main deck cargo floor to safely carry the applicable FAA-approved payload limits for above and below the main deck cargo floor. The modification and payload distribution shall be accomplished in accordance with a method approved by the Manager, Los Angeles ACO. The modification must comply with the applicable requirements of CAR part 4b for the FAA-approved payload distribution.

(d) Except for those airplanes that have been modified in accordance with paragraph (c) of this AD, within 1 year or 1,000 flight cycles after the effective date of this AD, whichever occurs first, perform an inspection and evaluation of the venting system of the main deck cargo floor to determine if the system limits decompression loads to a level that can be carried by the floor structure without failure, in accordance with a method approved by the Manager, Los Angeles ACO.

(e) If, based on the evaluation required by paragraph (d) of this AD, the venting system does not limit decompression loads to a level that can be carried by the floor structure without failure, within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first, modify the venting system, as necessary, to limit the decompression loads to a level that can be supported successfully by the existing floor structure, in accordance with a method approved by the Manager, Los Angeles ACO.

Actions Addressing Main Deck Cargo Door Hinge

(f) Accomplish the actions specified in paragraphs (f)(1) and (f)(2) of this AD in accordance with a method approved by the Manager, Los Angeles ACO.

(1) Within 250 flight cycles after the effective date of this AD, perform a detailed visual inspection to detect cracks of the exposed surfaces of the main deck cargo door hinge (both fuselage and door-side hinge elements). If any crack is detected, prior to further flight, repair in accordance with a method approved by the Manager, Los Angeles ACO, or replace the cracked hinge element with a new, like part.

Note 3: For the purposes of this AD, a detailed visual inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required."

(2) Within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first, replace the existing fasteners in the two door-side hinge elements at the forward and aft ends of the hinge with fasteners of acceptable strength.

Actions Addressing Main Deck Cargo 9g Crash Barrier

(g) Within 3 years or 4,000 flight cycles after the effective date of this AD, whichever occurs first, install a main deck cargo 9g crash barrier that complies with the applicable requirements of CAR part 4b, in accordance with a method approved by the Manager, Los Angeles ACO.

Alternative Methods of Compliance

(h) 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 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, Los Angeles ACO.

Note 4: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

Special Flight Permits

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

Effective Date

(j) This amendment becomes effective on January 30, 2002.

Issued in Renton, Washington, on December 13, 2001.

Kalene C. Yanamura,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01-31553 Filed 12-21-01; 8:45 am]

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