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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NM-69-AD; Amendment 39-12410; AD 2001-17-19]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model DC-10 Series Airplanes, and KC-10A and KDC-10 (Military) Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to all McDonnell Douglas Model DC-10 series airplanes, and KC-10A and KDC-10 (military) airplanes, that requires certain modifications of the thrust reverser control and indication system and wiring on each engine. This amendment is prompted by a determination that the current thrust reverser systems do not adequately preclude unwanted deployment of a thrust reverser. These actions are necessary to prevent unwanted deployment of a thrust reverser, which could significantly jeopardize continued safety of flight and landing of the airplane.

DATES: Effective October 1, 2001.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of October 1, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Aircraft Group, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024). 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 FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Philip Kush, Aerospace Engineer, Propulsion Branch, ANM-140L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5263; 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 all McDonnell Douglas Model DC-10 series airplanes, and KC-10A and KDC-10 (military) airplanes, was published in the Federal Register on April 28, 2000 (65 FR 24894). That action proposed to require certain modifications of the thrust reverser control and indication system and wiring on each engine.

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 Proposed AD

One commenter supports the proposed AD.

Compliance Time

Three commenters inquired about the proposed compliance time.

One commenter asks that the compliance time of within 18 months or 12,000 flight hours after the effective date of this AD, whichever occurs first, as specified in paragraph (a) of the proposed AD, be extended to within 24 months or 12,000 flight hours. The commenter notes that McDonnell Douglas Service Bulletin DC10-78-060, dated December 17, 1999, requires concurrent accomplishment of McDonnell Douglas DC-10 Service Bulletin 78-40, Revision 1, dated July 24, 1979. The commenter states that it intends to accomplish the referenced service bulletins concurrently, and concludes that the modifications should be accomplished during heavy maintenance due to extensive access.

The FAA concurs with the commenter that the compliance time for accomplishment of the modification required by paragraph (a) of the final rule may be extended to 24 months or 12,000 flight hours after the effective date of this AD, whichever occurs first. Based on information supplied by the commenter and the manufacturer, we acknowledge that a compliance time of within 24 months or 12,000 flight hours corresponds more closely to the operators' normal maintenance schedules. We have determined that this extension will not adversely affect safety. But we have concluded that a compliance time of within 24 months or 12,000 flight hours after the effective date of this AD, whichever occurs first, represents the maximum interval in which the affected airplanes could continue to operate without compromising safety. Paragraph (a) of the final rule has been revised accordingly.

A second commenter asks that the compliance time of within 5 years after the effective date of this AD for accomplishment of the thrust reverser wiring modification and installation of an additional locking system, as specified in paragraphs (b) and (c) of the proposed AD, be extended to within 6 years or 26,000 flight hours. The commenter states that the 5-year compliance time will require it to accomplish this extensive modification work at the airplane heavy check interval (3 years or 13,800 flight cycles for the commenter), and adds that the work should be accomplished at its major check interval (6 years or 26,000 flight hours). The commenter notes that the major check provides for maximum airplane access, and allows sufficient time to accomplish this work. The commenter also states that the proper time to install the indication circuit modification, as specified in paragraph (a) of the proposed AD, is concurrently with the sync-lock wiring and hardware installations.

A third commenter asks for clarification as to why the modifications specified in paragraphs (b) and (c) of the proposed AD must be accomplished within 5 years. The commenter states that the proposed 5-year compliance time for implementing these numerous modifications is very aggressive when compared to the safe operating records of Model DC-10 series airplanes; particularly because of the few, if any, occurrences of in-flight thrust reverser deployment. The commenter adds that the proposed compliance time could cause the unscheduled removal of airplanes from revenue service, possibly for an extended period of time, due to the overall scope of the modifications involved in the proposed AD. Additionally, many operators will be competing for limited industrial resources where Model DC-10 series airplanes can be modified within the proposed compliance time. The commenter plans to convert its DC-10 fleet to an MD-10 fleet between the years 2001 and 2007, and during that time the commenter states that it could incorporate this complex lock system modification. The conversion project alone will consume significant industrial modification capabilities of several aviation maintenance vendors.

The FAA does not concur with the commenters that the compliance time of within 5 years after the effective date of this AD for accomplishment of the thrust reverser wiring modification and installation of an additional locking system, as required by paragraphs (b) and (c) of this AD, should be extended to within 6 years or 26,000 flight hours, whichever occurs later. In developing an appropriate compliance time for these actions, the FAA considered not only the degree of urgency associated with addressing the subject unsafe condition, but the manufacturer's recommendation as to an appropriate compliance time, and the practical aspect of accomplishing the required modification and installation within an interval of time that parallels normal scheduled maintenance for the majority of affected operators. In light of these factors, the FAA finds a 5-year compliance time for completing the modification and installation to be warranted, in that it represents an appropriate interval of time allowable for affected airplanes to continue to operate without compromising safety.

We also have noted the problem the second commenter will have meeting the compliance deadline because of lack of manpower and resources for accomplishment of the modifications in a timely manner. However, under the provisions of paragraph (d) of this AD, the FAA may approve requests for adjustments to the compliance time if data are submitted to substantiate that such an adjustment would provide an acceptable level of safety.

Installation of Additional Locking System

One commenter disagrees with the proposed installation of an additional locking device as specified in paragraph (c) of the proposed AD. The commenter states that the installation should not be required if all other proposed actions are accomplished. The commenter's reasons and the FAA responses follow:

1. An acceptable level of reliability is achieved and maintained by accomplishing the thrust reverser health checks at the intervals specified in McDonnell Douglas Alert Service Bulletin DC10-78A056, dated January 19, 1998 ("C" checks). As part of an intensive maintenance program, many other thrust reverser components are also inspected during the "C" checks.

The FAA does not concur. We have determined that periodic inspections and tests (thrust reverser health checks) are a means of verifying proper operation of the thrust reverser components, but do not provide an adequate level of safety for the remainder of the life of the fleet of Model DC-10 series airplanes due to latent and maintenance failure modes.

2. There have only been a few "known" in-flight deployments of the thrust reverser, and no major control problems resulted from those. The cause of these in-flight deployments is known, and modifications have been implemented to prevent future occurrences. Based on the favorable history of in-flight deployments, availability of preventive maintenance programs and modifications, and favorable flight simulator testing, the possibility of an in-flight deployment and subsequent flight control problems is highly unlikely.

The FAA does not concur. We recognize that in-flight thrust reverser deployments have occurred on Model DC-10 series airplanes in certain flight conditions with no significant airplane controllability problems being reported. However, the FAA has been unable to establish that acceptable airplane controllability would be achieved following such a deployment. The FAA finds that, in the event of thrust reverser deployment during high-speed climb using high engine power, or during cruise, the airplane may not be controllable.

3. The cost to install an additional locking device on the affected airplanes would be more than 4.2 million dollars.

The FAA's response to the significant cost incurred by installing an additional locking device on affected airplanes is discussed in the section titled, "Cost Impact Information."

4. Experience acquired over the last 27 years has shown that the basic thrust reverser control system, as designed, is far too complex and difficult to maintain. Currently, there are over 15 separate components for each of the thrust reverser control systems that can prevent an inadvertent in-flight deployment. The proposed modification (installation of an additional locking device) will increase the number of electromechanical devices and wiring circuits. The commenter concludes that, for the reasons specified, additional reliability and maintainability problems will occur, and there will be an increase in the number of thrust reversers that fail to deploy when the airplane lands.

The FAA does not concur. This AD addresses an unsafe condition identified as deployment of a thrust reverser during flight and requires the installation of an additional thrust reverser system locking feature to correct that unsafe condition. We have determined that the installation and modification required by paragraphs (b) and (c) of this AD are necessary because the thrust reverser system does not provide an adequate level of safety for the remainder of the life of the fleet of Model DC-10 series airplanes. We agree that the required modification (installation of an additional locking device) will increase the electromechanical devices and wiring circuits, adding to the complexity of the thrust control system design. However, the increased reliability provided by the additional locking system will result in fewer in-flight deployments and will not significantly increase the number of thrust reversers that fail to deploy when the airplane lands.

Maintenance Issues

One commenter asks if technical data and other related maintenance documents will be available when the final rule is released. The commenter states that the service bulletins referenced in the proposed AD (not the referenced drawings that specify concurrent accomplishment of the actions), indicate that certain technical manuals will be affected. However, the commenter is not aware of the release of any technical data updates with changes related to the specified modifications. The commenter adds that, without adequate maintenance information, operators cannot properly maintain this new system after implementation. The commenter concludes that the final rule should not be released until all maintenance support issues (review of related technical data and maintenance documents) of the modifications are resolved, available, and ready for use.

The FAA does not concur. It is the responsibility of the manufacturer to provide the operators with technical data and other maintenance documents related to continued airworthiness. This includes updates with changes that affect the subject modifications. It is the operator's responsibility to implement related changes upon receipt. If the commenter is not receiving updated documentation from the manufacturer, the commenter should contact the manufacturer and request that any revised data that relates to the modifications required by this final rule be provided without delay. No change to the final rule is necessary in this regard.

Recertified Airplanes

One commenter states that it is the lead airline in the conversion and recertification of Model DC-10 series airplanes to Model MD-10 series airplanes. The commenter notes that the proposed AD and related service information do not address Model DC-10 series airplanes that will be recertified as Model MD-10 series airplanes. Accomplishment of the service bulletins referenced in paragraph (a) of the proposed AD within 18 months will result in installation of some modifications, and then removal of the installed modifications as the airplanes are converted. The commenter adds that the 18-month requirement, during implementation of airplane conversions, is an unnecessary expenditure of time and materials, because some of the modifications are subsequently removed during the conversion process.

The FAA does not concur. Most of the design changes required by this AD are incorporated into the MD-10 type design; therefore, most of the modifications would not have to be removed upon conversion. Additionally, this modification is required to reposition the reverser indications so that the pilot flying the airplane can immediately react in the event of an unwanted thrust reverser deployment. If this modification is not accomplished within the time specified, continued safety of flight could be jeopardized in the event of unwanted thrust reverser deployment.

Cost Impact Information

One commenter asserts that the proposed AD underestimates the work hours required to accomplish the proposed modifications (modify thrust reverser wiring and install additional locking system). The commenter states that the cost impact information is close to their own estimate of approximately \$631,000 per airplane, which applies the same \$60 per work hour labor rate, but then an additional 40% higher labor requirement is added by the commenter (plus higher cost for some materials), for accomplishment of the modifications specified in paragraphs (b) and (c) of the proposed AD. The commenter adds that accomplishing the modifications will have a significant financial impact on all Model DC-10 operators.

The commenter further notes that the proposed AD does not include sufficient information to adequately support maintenance planning after the airplane modifications are accomplished. Since the modifications are new and quite extensive, component and cost breakdowns of the numerous kits specified in the service bulletins referenced in the proposed AD should be included in the proposed AD and/or the service bulletins. This includes the modifications specified in the Middle River Aircraft Systems drawings. Such information would enable operators to conduct spares forecasting and support other maintenance planning requirements for this new airplane subsystem. Further, since the referenced service bulletins are not adequate in this area, the proposed AD should not be released until the missing information is included in the proposal and/or the service bulletins, to allow operators to assess the total impact of the cost of the modifications and plan accordingly.

The FAA infers that the commenter is asking that the cost impact information in the final rule be revised to reflect the estimate derived from the information provided (above). The FAA does not concur with the commenter's request. As specified in the "Cost Impact" section of the proposed AD, "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."

Furthermore, the FAA considers it inappropriate to attribute the costs associated with maintenance planning after the modifications are accomplished to the cost of the AD. This is because it is the operators' responsibility to provide their own forecasting maintenance and planning schedules, as well as any associated costs. Therefore, 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 change previously described. The FAA has determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 409 Model DC-10 series airplanes and KC-10A and KDC-10 (military) airplanes of the affected design in the worldwide fleet.

For airplanes listed in McDonnell Douglas DC-10 Service Bulletin DC10-78-060, (301 U.S.-registered airplanes) described below:

For General Electric powered airplanes (277 U.S.-registered airplanes): It will take approximately 56 work hours per airplane to accomplish the modification of the indication light system, at an average labor rate of \$60 per work hour. Required parts will cost between \$6,419 and \$11,315 per airplane. Based on these figures, the cost impact of this required modification is estimated to be between \$9,779 and \$14,675 per airplane.

For Pratt & Whitney-powered airplanes (24 U.S.-registered airplanes): It will take approximately 140 work hours per airplane to accomplish the modification of the indication light system, at an average labor rate of \$60 per work hour. Required parts will cost between \$8,753 and \$12,674 per airplane. Based on these figures, the cost impact of this required modification is estimated to be between \$17,153 and \$21,074 per airplane.

For airplanes listed in McDonnell Douglas DC-10 Service Bulletin 78-40 (179 U.S.-registered airplanes): It will take approximately 10 work hours per airplane to accomplish the installation of a thrust reverser interlock, at an average labor rate of \$60 per work hour. Required parts will be obtained from the operator's stock. Based on these figures, the cost impact of this required installation is estimated to be \$107,400, or \$600 per airplane.

For airplanes listed in McDonnell Douglas Service Bulletin DC10-78-7 (56 U.S.-registered airplanes): It will take approximately 52 work hours per airplane to accomplish the modification of the overpressure shutoff valve, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$2,100 per airplane. Based on these figures, the cost impact of this required modification is estimated to be \$292,320, or \$5,220 per airplane.

For airplanes listed in Rohr Service Bulletin MDC-CNS 78-41 (3 U.S.-registered airplanes): It will take approximately 6 work hours per airplane to accomplish the wiring modification, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of this required wiring modification is estimated to be \$1,080, or \$360 per airplane.

For airplanes listed in McDonnell Douglas DC-10 Service Bulletin 78-061 (284 U.S.-registered airplanes): It will take between 222 and 364 work hours per airplane to accomplish the installation of provisional wiring, at an average labor rate of \$60 per work hour. Required parts will cost between \$11,216 and \$17,986 per airplane. Based on these figures, the cost impact of this required installation is estimated to be between \$24,536 and \$39,826 per airplane.

For airplanes on which Middle River Aircraft Systems Modification Drawing 537L68229 or 537L68231 is accomplished (284 U.S.-registered airplanes): It will take 96 work hours per airplane to accomplish the installation of the mounting hardware for the electromechanical locking system for the thrust reversers, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$14,307 per airplane. Based on these figures, the cost impact of this required installation is estimated to be \$5,699,028, or \$20,067 per airplane.

For airplanes listed in McDonnell Douglas Service Bulletin DC10-78-062 (284 U.S.-registered airplanes): It will take approximately 622 work hours per airplane to accomplish the installation of an additional thrust reverser locking system, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$236,000 per airplane. Based on these figures, the cost impact of this required installation is estimated to be \$77,622,880, or \$273,320 per airplane.

For airplanes on which Middle River Aircraft Systems Modification Drawing 537L68230 or 537L68232 is accomplished (284 U.S.-registered airplanes): It will take 32 work hours per airplane to accomplish the installation of the electromechanical locking system for the thrust reversers, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$252,856 per airplane. Based on these figures, the cost impact of this required installation is estimated to be \$72,356,384, or \$254,776 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, 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.

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).

2001-17-19 McDonnell Douglas: Amendment 39-12410. Docket 2000-NM-69-AD.

Applicability: All Model DC-10 series airplanes and KC-10A and KDC-10 (military) 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 (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 unwanted deployment of a thrust reverser, which could significantly jeopardize continued safety of flight and landing of the airplane, accomplish the following:

Thrust Reverser System Modifications

(a) For all airplanes: Within 24 months or 12,000 flight hours after the effective date of this AD, whichever occurs first, modify the position indicator light system for each thrust reverser in accordance with Part 3 of the Accomplishment Instructions in McDonnell Douglas Service Bulletin DC10-78-060, dated December 17, 1999. Prior to or concurrent with accomplishment of the service bulletin, install the thrust reverser interlocks as specified in McDonnell Douglas DC-10 Service Bulletin 78-40, Revision 1, dated July 24, 1979, and accomplish the requirements in paragraph (a)(1) or (a)(2) of this AD, as applicable. The requirements of this paragraph must be accomplished prior to or concurrent with the requirements of paragraph (b) or (c) of this AD, as applicable.

(1) For General Electric-powered airplanes: Modify the overpressure shutoff valve light circuits in accordance with McDonnell Douglas DC-10 Service Bulletin 78-7, Revision 1, dated April 17, 1975.

(2) For Pratt and Whitney-powered airplanes: Modify the left and right thrust reverser wire harnesses in accordance with Rohr Service Bulletin MDC-CNS 78-41, dated June 11, 1999.

(b) For Model DC-10-10, -10F, -15, -30, and -30F series airplanes; and KC-10A and KDC-10 (military) airplanes; listed in McDonnell Douglas Service Bulletin DC10-78-061, dated February 9, 2000: Within 5 years after the effective date of this AD, accomplish the thrust reverser wiring modification on each engine in accordance with Part 3 of the Accomplishment Instructions of the service bulletin. Concurrent with accomplishment of this service bulletin, accomplish Middle River Aircraft Systems Modification Drawing 537L68229 (for CF6-50-powered airplanes) or 537L68231 (for CF6-6-powered airplanes), as applicable.

(c) For Model DC-10-10, -10F, -15, -30, and -30F series airplanes; and KC-10A and KDC-10 (military) airplanes; listed in McDonnell Douglas Service Bulletin DC10-78-062, dated February 14, 2000: Within 5 years after the effective date of this AD, install an additional locking system on each thrust reverser in accordance with Part 3 of the Accomplishment Instructions in the service bulletin. Concurrent with accomplishment of this service bulletin, accomplish Middle River Aircraft Systems Modification Drawing 537L68230 (for CF6-50-powered airplanes) or 537L68232 (for CF6-6-powered airplanes), as applicable.

Alternative Methods of Compliance

(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 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, 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.

Special Flight Permits

(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.

Incorporation by Reference

(f) The actions shall be done in accordance with the following service information, as applicable:

Table 1.--Referenced Service Documents		
Service document	Revision level	Date
McDonnell Douglas Service Bulletin DC10-78-060.	Original.....	December 17, 1999.
McDonnell Douglas Service Bulletin DC10-78-061.	Original.....	February 9, 2000.
McDonnell Douglas Service Bulletin DC10-78-062.	Original.....	February 14, 2000.
McDonnell Douglas DC-10 Service Bulletin 78-7..	1.....	April 17, 1975.
McDonnell Douglas DC-10 Service Bulletin 78-40.	1.....	July 24, 1979.
Middle River Aircraft Systems Modification Drawing 537L68229.	Original.....	May 18, 1999.
Middle River Aircraft Systems Modification Drawing 537L68230.	Original.....	May 18, 1999.
Middle River Aircraft Systems Modification Drawing 537L68231.	Original.....	May 18, 1999.
Middle River Aircraft Systems Modification Drawing 537L68232.	Original.....	May 18, 1999.
Rohr Service Bulletin MDC-CNS 78-41.....	Original.....	June 11, 1999.

Revision 1 of McDonnell Douglas DC-10 Service Bulletin 78-7 contains the following list of effective pages:

Page number	Revision level shown on page	Date shown on page
1, 3, 10, 12, 13, 21.....	1.....	April 17, 1975.
2, 4-9, 11, 14-20, 22.....	Original.....	December 7, 1972.

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 Aircraft Group, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024). Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(g) This amendment becomes effective on October 1, 2001.

Issued in Renton, Washington, on August 17, 2001.

Vi L. Lipski,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 01-21394 Filed 8-24-01; 8:45 am]

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