

**14 CFR Part 39**

[Docket No. 96-NM-217-AD; Amendment 39-9934; AD 97-04-10]

RIN 2120-AA64

**Airworthiness Directives; McDonnell Douglas Model DC-9-80 Series Airplanes, Model MD-88 Airplanes, and Model MD-90 Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment supersedes an existing airworthiness directive (AD), applicable to all McDonnell Douglas Model DC-9-80 series airplanes, Model MD-88 airplanes, and Model MD-90 airplanes, that currently requires revising the Airplane Flight Manual (AFM) to include limitations and procedures to address situations in which the autopilot or autothrottle fails to disengage. That AD was prompted by incidents in which the flightcrew was unable to disconnect the autopilot or autothrottle function from the engaged position, due to a discrepancy in a microswitch that is associated with the operation of those functions. This amendment requires an inspection of the autopilot and autothrottle engage switches located in the flight guidance control panel, and installation of improved switches. Accomplishment of these actions will terminate the previous requirement for the AFM revision. The actions specified by this AD are intended to ensure that the autopilot and autothrottle disengage when commanded to do so by the flightcrew.

**DATES:** Effective March 28, 1997.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 28, 1997.

**ADDRESSES:** The service information referenced in this AD may be obtained from McDonnell Douglas Corporation, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Technical Publications Business Administration, Department C1-L51 (2-60). 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, 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.

**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) by superseding AD 96-12-21, amendment 39-9664 (61 FR 29007, June 7, 1996), which is applicable to all McDonnell Douglas Model DC-9-80 series airplanes, Model MD-88 airplanes, and Model MD-90 airplanes, was published in the Federal Register on September 30, 1996 (61 FR 51068). The action proposed to continue to require a revision of the Airplane Flight Manual (AFM) to include limitations and procedures to address situations in which the autopilot or autothrottle fails to disengage; this action was previously required by AD 96-12-21. However, the action also proposed to require an inspection of the autopilot and autothrottle engage switches located in the flight guidance control panel (FGCP), and replacement of the switches with improved switches. Accomplishment of these new actions would constitute terminating action for the previous requirement to revise the AFM.

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**

Two commenters support the proposed AD.

**Request To Extend Compliance Time**

Several commenters support the intent of the proposed AD, but request that the compliance time for accomplishing the terminating action be extended from the proposed 120 days to as much as 3 years. These commenters are concerned that not enough replacement switches will be available to support the fleet within the proposed compliance time. One commenter, a U.S. operator, states that it owns 310 FGCP's that would need new switches installed, and its maintenance facilities currently can modify only 5 panels per week; to meet the proposed compliance schedule, this operator would have to employ 2 additional full-time mechanics at a cost of \$80,000. One commenter, another a U.S. operator, states that Honeywell (the manufacturer of the switches) has indicated that it will not be able to supply the complete

number of needed switches within the 120-day time period; Honeywell suggested that it will need at least 180 days just to produce the switches, and more time will be required for ordering and shipping.

The FAA concurs that the compliance time can be extended. Honeywell has advised the FAA that it has re-evaluated the magnitude of the modification program and finds that it will not have an ample number of parts available to support the proposed 120-day compliance time for modification of the U.S. fleet. Based on the information provided by Honeywell, and in consideration of the number of airplanes that will be affected by the requirement to install the new switches, the FAA has determined that the compliance time can be extended to 12 months. Paragraph (c) of the final rule has been revised accordingly. The FAA finds that safety will not be compromised in the interim, since the currently-required AFM revision will remain in effect during that time.

**Request To Revise Cost Impact Information**

Several commenters suggest that the cost impact information, which was presented in the preamble to the proposal, was underestimated. One commenter points out that, although the information in the referenced McDonnell Douglas service bulletin may indicate that only 1.5 work hours are required to accomplish the terminating action, that figure only reflects the labor necessary for removal and re-installation of a modified FGCP. It does not include the time that will be required for in-house shop rework of the parts (an additional 2 to 5 work hours) or, for some operators, the time necessary for removing the panels from the airplane, shipping them to Honeywell for modification, and returning them to the operator for installation (estimated to be as much as 270 days).

The FAA concurs that the cost impact figures should be updated. In general, the cost impact information relative to AD actions includes only the direct costs of the specific actions required by the AD. The number of work hours necessary to accomplish the terminating action, specified as 1.5 work hours in the proposal, represented the time necessary to perform only the actions actually required by the AD: inspection, removal, installation, and a functional check. That number was provided to the FAA by the airframe manufacturer, McDonnell Douglas, based on the best data available at that time. A Honeywell service bulletin that is related to the

actions required by this AD indicates that 2.0 work hours would be required for modification of the panel. In consideration of this new information, the FAA has revised the cost impact information, below, to indicate that 3.5 work hours will be required to accomplish the terminating action.

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; ordering/shipping/delivery time for parts, or the time needed for other administrative actions. Because incidental costs may vary significantly from operator to operator, they are almost impossible to calculate.

#### 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 970 Model DC-9-80 series airplanes, Model MD-88 airplanes, and Model MD-90 airplanes of the affected design in the worldwide fleet. The FAA estimates that 512 airplanes of U.S. registry will be affected by this proposed AD.

The AFM revision that was previously required by AD 96-12-21 and retained in this new AD takes approximately 1 work hour per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the currently required actions on U.S. operators is estimated to be \$30,720, or \$60 per airplane.

The new actions that are required by this new AD will take approximately 3.5 work hours per airplane to accomplish (this figure includes inspection, removal, modification, re-installation, and a functional check), at an average labor rate of \$60 per work hour. Required parts will be provided by the manufacturer at no charge to operators. Based on these figures, the cost impact of the new requirements of this AD on U.S. operators is estimated to be \$107,520, or \$210 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and

that no operator would accomplish those actions in the future if this AD were not adopted.

#### Regulatory Impact

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

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

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

#### Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

#### PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

##### § 39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39-9664 (61 FR 29007, June 7, 1996), and by adding a new airworthiness directive (AD), amendment 39-9934, to read as follows:

97-04-10 McDonnell Douglas: Amendment 39-9934. Docket 96-NM-217-AD. Supersedes AD 96-12-21, Amendment 39-9664.

Applicability: Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), DC-9-87 (MD-87), and Model MD-88 airplanes, as listed in McDonnell Douglas Service Bulletin MD80-22-122, dated August 6,

1996; and Model MD-90 airplanes, as listed in McDonnell Douglas Service Bulletin MD90-22-005, dated August 6, 1996; 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 (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 ensure the flight crew's ability to continue to control the airplane manually if the autopilot or autothrottle function fails to disengage, accomplish the following:

(a) Within 14 days after June 24, 1996 (the effective date of AD 96-12-21, amendment 39-9664), 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.

If the autopilot or autothrottle fails to disconnect normally, press and hold the autopilot release button or either autothrottle release button, as appropriate. Refer to the Abnormal Procedures section for procedures if the autopilot or autothrottle fails to disconnect.

(b) Within 14 days after June 24, 1996 (the effective date of AD 96-12-21, amendment 39-9664), revise the Abnormal Procedures section of the FAA-approved AFM to include the following information. This may be accomplished by inserting a copy of this AD in the AFM.

#### AUTOPILOT:

If the Autopilot (A/P) disconnects when the AUTOPILOT RELEASE button on either control wheel is depressed, and re-engages when the AUTOPILOT RELEASE button is released, accomplish the following procedures:

PROCEDURE: Use Autopilot (as desired)

AUTOPILOT RELEASE button ....PRESS AND HOLD

- Hold either yoke (yellow) Autopilot Release button while continuing to fly the aircraft manually. The A/P will remain disengaged while depressing the button.

- When the Autopilot Release button is released, the A/P will engage and all A/P functions should work normally.

TO SILENCE THE AURAL WARNING:

CAWS C/B (P-38).....PULL

- Circuit breaker is located behind the Captain's seat.

- Pulling the C/B will disable the Stall Warning SSR-1, Landing Gear, Takeoff, Cabin Altitude, Speed Brake aural warnings, in addition to the Autopilot aural warning.

**CAUTION:**

Do not attempt to overpower the autopilot. When the autopilot is engaged, applying force to the column may allow the alternate trim to reposition the stabilizer. If the force is applied long enough, it will result in an out-of-trim condition."

**"AUTOTHROTTLER:**

If the Autothrottle (A/T) disconnects when either throttle disconnect button is depressed, and re-engages when throttle disconnect button is released, accomplish the following procedures:

**PROCEDURE:** Use Autothrottle System (as desired)

**WHEN A DISCONNECT IS NECESSARY:****AUTOTHROTTLER RELEASE  
BUTTON PRESS AND HOLD**

- Press and hold either button until flashing red A/T annunciation is illuminated. Flashing red light indicates autothrottle is disconnected.

- **AUTOTHROTTLER RELEASE BUTTON** may then be released.

- The FMA A/T window will annunciate as though the A/T is engaged.

- The flashing red A/T annunciation of the FMA cannot be extinguished with repeated depression of the autothrottle release button.

- If the throttle levers are retarded to the idle stop, the flashing red A/T annunciation will extinguish, and the A/T system will re-engage.

- If the DFGC is selected to the IAS mode and the A/T SPEED mode is selected, the A/T system will re-engage."

(c) Within 12 months after the effective date of this AD, accomplish the inspection and replacement of the autopilot and autothrottle engage switches in the flight guidance control panel (FGCP), in accordance with the paragraphs 3., 3.A., and 3.B. of the Accomplishment Instructions of McDonnell Douglas Service Bulletin MD80-22-122, dated August 6, 1996 (for Model DC-9-80 series airplanes and Model MD-88 airplanes); and McDonnell Douglas Service Bulletin MD90-22-005, dated August 6, 1996 (for Model MD-90 airplanes). Once these actions are completed, the AFM revision required by paragraphs (a) and (b) of this AD may be removed.

Note 2: The McDonnell Douglas service bulletins referenced in this paragraph refer to Honeywell Incorporated Service Bulletin 4034242-22-13 for additional service instructions.

(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 3: 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) The actions shall be done in accordance with McDonnell Douglas Service Bulletin MD80-22-122, dated August 6, 1996 (for Model DC-9-80 series airplanes and Model MD-88 airplanes); and McDonnell Douglas Service Bulletin MD90-22-005, dated August 6, 1996 (for Model MD-90 airplanes). 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 McDonnell Douglas Corporation, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Technical Publications Business Administration, Department C1-L51 (2-60). 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.

(g) This amendment becomes effective on March 28, 1997.

Issued in Renton, Washington, on February 10, 1997.

Darrell M. Pederson,

*Acting Manager, Transport Airplane  
Directorate, Aircraft Certification Service.*

[FR Doc. 97-3844 Filed 2-20-97; 8:45 am]

**BILLING CODE 4910-13-U**

**14 CFR Part 39**

[Docket No. 96-ANE-15; Amendment 39-9927; AD 97-04-04]

**RIN 2120-AA64**

**Airworthiness Directives; AlliedSignal Inc. GTCP85 Series Auxiliary Power Units**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment supersedes an existing airworthiness directive (AD), applicable to AlliedSignal Inc. (formerly Garrett Auxiliary Power Division) GTCP85 Series auxiliary power units (APUs), that currently requires removing the existing turbine wheel shroud and installing one constructed of Hastelloy "S" material, or installing a containment augmentation ring. This amendment deletes the option of installing a turbine shroud constructed of Hastelloy "S" material. This amendment is prompted by a report of insufficient APU containment capability with the Hastelloy "S" shroud alone installed. The actions specified by this AD are intended to prevent turbine shroud fragments from exiting the APU

and puncturing the APU compartment, which could result in reduced fire extinguishing capability in the APU compartment.

**DATES:** Effective March 24, 1997.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 24, 1997.

**ADDRESSES:** The service information referenced in this AD may be obtained from AlliedSignal Aerospace, Attn: Data Distribution, M/S 64-3/2101-201, P.O. Box 29003, Phoenix, AZ 85038-9003; telephone (602) 365-2493, fax (602) 365-5577. This information may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA 01803-5299; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:**

Robert Baitoo, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; telephone (310) 627-5245; fax (310) 627-5210.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 93-07-13, Amendment 39-8545 (58 FR 21917, April 26, 1993), which is applicable to AlliedSignal Inc. (formerly Garrett Auxiliary Power Division) GTCP85 Series auxiliary power units (APUs), was published in the Federal Register on August 12, 1996 (61 FR 41751). That action proposed to require installing an improved containment augmentation ring, Part Number (P/N) 3616426-1, or P/N 3616426-3, which is a redesigned containment augmentation ring to allow installation on certain APUs that cannot accept the -1 containment augmentation ring. The containment augmentation rings, P/Ns 3616426-1 and 3616426-3, improve the containment capability of the APU relative to the earlier containment augmentation ring, P/N 3612249-1, by preventing turbine shroud fragments from passing around the containment augmentation ring. The installation must be accomplished within 24 months after the effective date of this AD, for flight operable APUs, and within 36 months after the effective date of this AD, for APUs that are operable on the ground only. The actions would be required to be accomplished in accordance with AlliedSignal Aerospace Alert Service Bulletin (ASB) No.