unusual attitudes. This capability must be shown for all foreseeable modes of upset, including crew mishandling, autopilot failure (including ''slowovers''), and turbulence/gust encounters.

2. Installation Requirements

a. The arrangement of HUD display controls must be visible to and within reach of the pilot from any normal seated position. The position and movement of the controls must not lead to inadvertent operation. The HUD controls must be adequately illuminated for all normal background lighting conditions, and must not create any objectionable reflections on the HUD or other flight instruments.

b. The display brightness must be satisfactory in the presence of dynamically changing background (ambient) lighting conditions. If automatic control is not provided, it must be shown that a single setting is satisfactory. When the brightness level is altered, the relative luminance of each displayed symbol, character, or data shall vary smoothly. In no case shall any selectable brightness level allow any information to be invisible while other data remains discernible. There shall be no objectionable brightness transients when transitioning between manual and automatic control. The HUD data shall be visible in lighting conditions from 0 fL to 10,000 fL. If certain lighting conditions prevent the crew to adequately seeing and interpreting HUD data (for example, flying directly toward the sun), accommodation must be provided to permit the crew to make a ready transition to the head down displays.

c. To the greatest extent practicable, the HUD controls must be integrated with other controls, including the flight director, to minimize the crew workload associated with HUD operation and to ensure flightcrew awareness of engaged flight guidance modes.

d. The installation of the HUD system must not interfere or restrict other installed equipment such as emergency oxygen masks, headsets, or microphones. The installation of the HUD must not adversely affect the emergency egress provisions for the flightcrew, or significantly interfere with crew access. The system also must not hinder the crew's movement while conducting any flight procedures.

e. The installation of the HUD system must not present the crew with any objectionable glare or reflection in any lighting conditions. This is equally applicable from glare or reflections visible on the HUD system itself, or that originating from the HUD system and visible in other ares such as the windshield. The installation of the HUD system must not significantly obstruct either pilot's external field of view when both combiners are deployed. The external view requirements of § 25.773 must be retained with both combiners deployed.

f. The HUD system must be designed and installed to prevent the possibility of pilot injury in the event of an accident or any other foreseeable circumstance such as turbulence encounter, hard landing, bird strike, etc. The installation of the HUD, including overhead unit and combiner, must comply with the head injury criteria of § 25.562, Amendment 25–64.

g. The design eyebox shall be centered around each pilot's design eye position, and must be large enough that the minimum monocular field of view is visible at the following minimum displacements from the cockpit Design Eye Position:

Lateral: 1.5 inches left and right
Vertical: 1.0 inches up and down
Longitudinal: 2.0 inches fore and aft

These requirements must be met for pilots from 5′2″ to 6′3″ tall, while seated with seat belts fastened and with the pilot positioned at the design eye position (ref. § 25.777(c)). Larger eyebox dimensions may be required for meeting operational requirements for use as a full time primary flight display.

h. The HUD system combiner must not create any objectionable distortion of the pilot's external view. The optical qualities (accommodation, luminance, vergence) of the HUD shall be uniform across the entire field of view. When viewed by both eyes from any off-center position within the eyebox, non-uniformities shall not produce perceivable differences in binocular view. Notwithstanding compliance with these minimum eyebox dimensions, the HUD eyebox must be large enough to adequately serve as a primary flight display without inducing adverse effects on pilot vision and fatigue.

3. System Requirements

a. The HUD system must be shown to perform its intended function as a primary flight display during all phases of flight. The normal operation of the HUD system cannot adversely affect, or be adversely affected by other airplane systems. Malfunctions of the HUD system which cause loss of all primary flight displays, including both HUDs and HDDs, shall be extremely improbable.

b. The criticality of the HUD system's function to display flight and navigation data, including the potential to display hazardously misleading information, must be assessed according to §§ 25.1309 and 25.1333, Advisory Circular (AC) 25–11 paragraph 4.a., and AC 25.1309–1A. All alleviating flightcrew actions that are considered in the HUD safety analysis must be validated during testing for incorporation in the airplane flight manual procedures section or for inclusion in type-specific training.

c. Since the display of hazardously misleading information on more than one primary flight display must be extremely improbable, HUD system software shall be developed to Level A requirements, as specified by RTCA Document DO–178B, ''Software Considerations in Airborne Systems and Equipment Certification.''

d. The HUD system must monitor the position of the combiner and provide a warning to the crew when the combiner position is such that conformal symbols will be hazardously misaligned.

e. The HUD system must be shown adequate for airplane control and guidance during an engine failure any phase of flight.

f. There must be no adverse physiological effects of long term use of the HUD system, such as fatigue or eye strain, that cause the pilot to have to revert to the HDD. Use of the HUD system also cannot require excessive cognitive workload or unreasonable limitations on head position.

g. The current mode of the flight guidance/automatic flight control system, shall be clearly annunciated in the HUD unless there are compensating features.

i. The HUD system must be shown to comply with the high intensity radiated fields certification requirements specified in another special condition, not yet finalized.

Issued in Renton, Washington, on September 9, 1996.

James V. Devany,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM–100.

[FR Doc. 96–23815 Filed 9–16–96; 8:45 am]

BILLING CODE 4910–13–M

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14 CFR Part 39

[Docket No. 96–NM–99–AD]

RIN 2120–AA64

Airworthiness Directives; McDonnell Douglas Model DC–9, DC–9–80 and C–9 (Military) Series Airplanes, and Model MD–88 Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain McDonnell Douglas Model DC–9, DC–9–80 and C–9 (military) series airplanes, and Model MD–88 airplanes. This proposal would require either installation of external protective doublers between the outboard flight spoiler actuators and the aft spar webs of the wings, or replacement of the pistons of the outboard flight spoiler actuators with improved pistons. This proposal is prompted by reports of failure of the piston of the outboard flight spoiler actuator due to fatigue at the clevis end of the upper lug mounting hole of the piston. The actions specified by the proposed AD are intended to prevent such failure of the piston and the consequent puncturing of the aft spar web. This condition, if not corrected, could result in fuel leakage and reduced structural integrity of the wings.

DATES: Comments must be received by October 28, 1996.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM–103, Attention: Rules Docket No. 96–NM–99–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056. Comments may be inspected at this

location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule 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 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.

FOR FURTHER INFORMATION CONTACT: Brent Bandley, Aerospace Engineer, Airframe Branch, ANM–120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712; telephone (310) 627–5237; fax (310) 627–5210.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: ''Comments to Docket Number 96–NM–99–AD.'' The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM–103, Attention: Rules Docket No. 96–NM–99–AD, 1601 Lind Avenue, SW., Renton, Washington 98055–4056.

Discussion

The FAA has received reports indicating that the pistons of the outboard flight spoiler actuators on the left and right wings of McDonnell Douglas Model DC–9, DC–9–80, or MD–88 series airplanes failed. Investigation revealed that fatigue of the clevis end of the upper lug mounting hole on the piston caused the pistons to fail. Such failure can result in the failed piston puncturing the aft spar web of the wing. This condition, if not corrected, could result in fuel leakage and reduced structural integrity of the wings.

Explanation of Relevant Service Information

The FAA has reviewed and approved McDonnell Douglas Service Bulletin DC9–27–300, Revision 02, dated June 29, 1995, which describes procedures for installation of an external protective doubler between the aft spar web and the piston of the outboard flight spoiler actuator on the wings; and procedures for replacement of the pistons of outboard flight spoiler actuators with improved pistons of higher strength. Installing a protective doubler or replacing the spoiler actuator piston will minimize the possibility of a failed piston puncturing a fuel tank and reducing the structural integrity of the wing.

Explanation of Requirements of Proposed Rule

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require either installation of external protective doublers between the aft spar webs and the pistons of the outboard flight spoiler actuators on the wings, or replacement of the pistons of the outboard flight spoiler actuators with improved pistons. The actions would be required to be accomplished in accordance with the service bulletin described previously.

Cost Impact

There are approximately 1,571 Model DC–9, DC–9–80, and C–9 (military) series airplanes, and Model MD–88 airplanes of the affected design in the worldwide fleet. The FAA estimates that 1,047 airplanes of U.S. registry would be affected by this proposed AD.

The proposed installation of external doublers would take approximately 14 work hours per airplane to accomplish, at an average labor rate of $60 per work hour. Required parts would cost approximately $1,500 per airplane. Based on these figures, the cost impact of the installation of external doublers proposed by this AD on U.S. operators is estimated to be $2,340 per airplane.

The proposed replacement of the pistons of the outboard flight spoiler actuators would take approximately 12 work hours per airplane to accomplish, at an average labor rate of $60 per work hour. Required parts would cost approximately $5,180 per airplane. Based on these figures, the cost impact of the replaced of the pistons proposed by this AD on U.S. operators is estimated to be $5,900 per airplane.

These cost impact figures are based on assumptions that no operator has yet accomplished any of the proposed 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 proposed herein would 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 proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this proposed regulation (1) is not a ''significant regulatory action'' under Executive Order 12866; (2) is not a ''significant rule'' under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) if promulgated, 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 copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting 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.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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:

McDonnell Douglas: Docket 96–NM–99–AD.

Applicability: Model DC–9, Model DC–9–80 and C–9 (military) series airplanes, and Model MD–88 airplanes; as listed in McDonnell Douglas Service Bulletin DC9–27–300, Revision 02, dated June 29, 1995; 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 (b) 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 fuel leakage and reduced structural integrity of the wings due to puncturing of the wings by a failed piston of the outboard flight spoiler actuator, accomplish the following:

(a) Prior to the accumulation of 5,000 landings after the effective date of this AD, accomplish the actions specified in either paragraph (a)(1) or (a)(2) of this AD, in accordance with McDonnell Douglas Service Bulletin DC9–27–300, Revision 02, dated June 29, 1995.

Note 2: Installation of McDonnell Douglas flight spoiler actuator assembly, part number (P/N) 5915900–5525, on the right and left wings prior to the effective date of this AD is considered acceptable for compliance with the requirements of this paragraph.

(1) Install external protective doublers between the outboard flight spoiler actuators and the aft spar webs of the left and right wings; or

(2) Replace the pistons of the outboard flight spoiler actuators on the left and right wings with improved pistons,

(b) 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.

(c) 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.

Issued in Renton, Washington, on September 10, 1996.

James V. Devany,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 96–23709 Filed 9–16–96; 8:45 am]

BILLING CODE 4910–13–U

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14 CFR Part 39

[Docket No. 96–ANE–06]

RIN 2120–AA64

Airworthiness Directives; General Electric Aircraft Engines CT7 Series Turboprop Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to General Electric Aircraft Engines (GE) CT7 series turboprop engines. This proposal would require replacement of the gas generator turbine stage 2 forward cooling plates prior to the published cyclic life limits. The proposal also defines the new, reduced cyclic life limits for the affected forward cooling plates. This proposal is prompted by reports of gas generator turbine stage 2 forward cooling plate failures. The actions specified by the proposed AD are intended to prevent gas generator turbine stage 2 forward cooling plate failure, which could result in an uncontained engine failure.

DATES: Comments must be received by October 17, 1996.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 96–ANE–06, 12 New England Executive Park, Burlington, MA 01803–5299. Comments may be inspected at this location between 8:00 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from GE Aircraft Engines, 1000 Western Ave., Lynn, MA 01910; telephone (617) 594–3140, fax (617) 594–4805. This information may be examined at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Dave Keenan, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803–5299; telephone (617) 238–7139, fax (617) 238–7199.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: ''Comments to Docket Number 96–ANE–06.'' The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 96–ANE–06, 12 New England Executive Park, Burlington, MA 01803–5299.

Discussion

The Federal Aviation Administration (FAA) has received reports of gas generator turbine stage 2 forward cooling plate failures on General Electric Aircraft Engines (GE) CT7 series turboprop engines. In one incident the gas generator turbine stage 2 forward