

lower limbs as well as the torso. Failure to limit the forward (in the airplane's coordinate system) travel of the lower limbs may cause the occupant to come out of the restraint system or produce severe injuries due to the resulting position of the restraint system and/or twisting (torsional load) of the lower lumber spinal column.

3. The load limit in the torso in the lateral direction. Human tolerance for side-facing seats differs from that for forward- or aft-facing seats.

The automotive industry has developed test procedures and occupant injury criteria appropriate for side impact conditions. The criteria includes limiting lateral pelvic accelerations and using the "Thoracic Trauma Index," which is defined in 49 CFR 571.214. Use of the Side Impact Dummy (SID) identified in 49 CFR part 572, subpart F, rather than the Hybrid II dummy identified in 49 CFR part 572, subpart B, is required to evaluate these parameters. The Hybrid II dummy is used in the current § 25.562 test. Testing with a SID is the best means available to assess the injury potential of a sideward impact condition. Such an evaluation is considered necessary to provide an acceptable level of safety for side-facing seats.

The side-facing seat special conditions have been determined to result in a level of safety equivalent to that provided by the injury pass/fail criteria in § 25.562 for forward- or aft-facing seats.

Applicability

As discussed above, these special conditions are applicable to Gulfstream Model G150 airplanes. Should GALP apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on Gulfstream Model G150 airplanes. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason, and because a delay would significantly

affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

■ The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

■ Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Gulfstream Model G150 airplanes.

In addition to the airworthiness standards of §§ 25.562 and 25.785, the minimum acceptable standards for dynamic certification of single-occupant side-facing seats on Gulfstream Model G150 airplanes are as follows:

Additional Injury Criteria

(a) *Existing Criteria:* All injury protection criteria of §§ 25.562(c)(1) through (c)(6) apply to the occupant of a side-facing seat. Head Injury Criterion (HIC) assessments are required only for head contact with the seat and/or adjacent structures.

(b) *Body-to-Wall/Furnishing Contact:* The seat must be installed immediately aft of a structure, such as an interior wall or furnishing, that will support the pelvis, upper arm, chest, and head of an occupant seated next to the structure. A conservative representation of the structure and its stiffness must be included in the tests. It is recommended, but not required, that the contact surface of this structure be covered with at least two inches of energy-absorbing protective padding (foam or equivalent), such as Ensolite.

(c) *Thoracic Trauma:* The Thoracic Trauma Index (TTI) injury criterion must be substantiated by dynamic test or by rational analysis, based on a previous test or tests of a similar seat installation. Testing must be conducted with a Side Impact Dummy (SID), as defined in 49 CFR part 572, subpart F, or its equivalent. The TTI must be less than 85, as defined in 49 CFR part 572, subpart F. The TTI data must be

processed as defined in Federal Motor Vehicle Safety Standard (FMVSS) part 571.214, section S6.13.5.

(d) *Pelvis:* Pelvic lateral acceleration must be shown by dynamic test or by rational analysis based on previous test(s) of a similar seat installation to not exceed 130g. Pelvic acceleration data must be processed as defined in FMVSS part 571.214, section S6.13.5.

(e) *Shoulder Strap Loads:* Where upper torso straps (shoulder straps) are used for occupants, tension loads in individual straps must not exceed 1,750 pounds. If dual straps are used for restraining the upper torso, the total strap tension loads must not exceed 2,000 pounds.

Additional Test Requirements

The above performance measures must not be exceeded during the following dynamic tests:

(a) Conduct a longitudinal test per § 25.562(b)(2) with a SID, undeformed floor, no yaw, and with all lateral structural supports (armrests/walls).

Pass/fail injury assessments: The TTI and pelvic acceleration.

(b) Conduct a longitudinal test per § 25.562(b)(2) with the Hybrid II Anthropomorphic Test Dummy (ATD), deformed floor, 10 degrees yaw, and with all lateral structural supports (armrests/walls).

Pass/fail injury assessments: The HIC, upper torso restraint load, restraint system retention and pelvic acceleration.

(c) Conduct a vertical test per § 25.562(b)(1) with a Hybrid II ATD with existing pass/fail criteria.

Issued in Renton, Washington, on August 9, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-16517 Filed 8-19-05; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM324; Special Conditions No. 25-293-SC]

Special Conditions: McDonnell Douglas Model MD-10-10F and MD-10-30F Airplanes; Enhanced Flight Visibility System (EFVS)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes. These airplanes, as modified by the Federal Express Corporation, will have an advanced enhanced flight visibility system (EFVS). The EFVS is a novel or unusual design feature which consists of a head up display (HUD) system modified to display forward-looking infrared (FLIR) imagery. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: The effective date of these special conditions is August 9, 2005. Comments must be received on or before September 21, 2005.

ADDRESSES: Comments on these special conditions may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate, Attn: Rules Docket (ANM-113), Docket No. NM324, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; or delivered in duplicate to the Transport Airplane Directorate at the above address. Comments must be marked: Docket No. NM324. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

FOR FURTHER INFORMATION CONTACT: Dale Dunford, FAA, Transport Standards Staff, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (425) 227-2239; fax (425) 227-1320; e-mail: dale.dunford@faa.gov.

SUPPLEMENTARY INFORMATION: The FAA has determined that the substance of these special conditions has previously been subject to the public comment process. These particular special conditions were recently issued and only three non-substantive comments were received during the public comment period. The FAA therefore finds that good cause exists for making these special conditions effective upon issuance.

Comments Invited

Interested persons are invited to submit such written data, views, or arguments, as they may desire. Communications should identify the rules docket number and be submitted in duplicate to the address specified above. The Administrator will consider

all communications received on or before the closing date for comments. The special conditions may be changed in light of the comments received. All comments received will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Persons wishing the FAA to acknowledge receipt of their comments submitted in response to these special conditions must include with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. NM324". The postcard will be date stamped and returned to the commenter.

Background

On May 1, 2004, the Federal Express Corporation applied for a supplemental type certificate for the installation and operation of a head-up display (HUD) and an infrared enhanced flight vision system (EFVS) on McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes. The original type certificate for the MD-10-10F and MD-10-30F airplanes is A22WE, revision 7, dated May 24, 2002.

The McDonnell Douglas Model MD-10-10F and MD-10-30F are transport category cargo-carrying airplanes that operate with a crew of two and carry no passengers. The model MD-10-10F airplane has a wing span of 155 feet, a length of 181 feet, a maximum takeoff gross weight of 440,000 pounds, is powered by three General Electric CF6-6D or CF6-K turbofan engines, and has a maximum range of 5,514 nautical miles. The Model MD-10-30F airplane has a wing span of 165 feet; a length of 182 feet; a maximum takeoff gross weight of 565,000 pounds or 580,000 pounds, depending on the serial number; is powered by three General Electric CF6-50C2 turbofan engines; and has a maximum range of 6,500 nautical miles.

The electronic infrared image displayed between the pilot and the forward windshield represents a novel or unusual design feature in the context of 14 CFR 25.773. Section 25.773 was not written in anticipation of such technology. The electronic image has the potential to enhance the pilot's awareness of the terrain, hazards and airport features. At the same time, the image may partially obscure the pilot's direct outside compartment view. Therefore, the FAA needs adequate safety standards to evaluate the EFVS to determine that the imagery provides the

intended visual enhancements without undue interference with the pilot's outside compartment view. The FAA intent is that the pilot will be able to use a combination of the information seen in the image and the natural view of the outside scene seen through the image, as safely and effectively as a pilot compartment view without an EVS image that is compliant with § 25.773.

Although the FAA has determined that the existing regulations are not adequate for certification of EFVSs, it believes that EFVSs could be certified through application of appropriate safety criteria. Therefore, the FAA has determined that special conditions should be issued for certification of EFVS to provide a level of safety equivalent to that provided by the standard in § 25.773.

Note: The term "enhanced vision system" (EVS) has been commonly used to refer to a system comprised of a head-up display, imaging sensor(s), and avionics interfaces that displayed the sensor imagery on the HUD and overlaid it with alpha-numeric and symbolic flight information. However, the term has also been commonly used in reference to systems which displayed the sensor imagery, with or without other flight information, on a head down display. To avoid confusion, the FAA created the term "enhanced flight visibility system" (EFVS) to refer to certain EVS systems that meet the requirements of the new operational rules—in particular the requirement for a HUD and specified flight information—and can be used to determine "enhanced flight visibility." EFVSs can be considered a subset of systems otherwise labeled EVSs.

On January 9, 2004, the FAA published revisions to operational rules in 14 CFR parts 1, 91, 121, 125, and 135 to allow aircraft to operate below certain altitudes during a straight-in instrument approach while using an EFVS to meet visibility requirements.

Prior to this rule change, the FAA issued Special Conditions No. 25-180-SC, which approved the use of an EVS on Gulfstream Model G-V airplanes. Those special conditions addressed the requirements for the pilot compartment view and limited the scope of the intended functions permissible under the operational rules at the time. The intended function of the EVS imagery was to aid the pilot during the approach and allow the pilot to detect and identify the visual references for the intended runway down to 100 feet above the touchdown zone. However, the EVS imagery alone was not to be used as a means to satisfy visibility requirements below 100 feet.

The recent operational rule change expands the permissible application of certain EVSs that are certified to meet the new EFVS standards. The new rule

will allow the use of EFVSs for operation below the minimum descent altitude (MDA) or decision height (DH) to meet new visibility requirements of § 91.175(l). The purpose of these special conditions is not only to address the issue of the "pilot compartment view," as was done by Special Conditions No. 25-180-SC, but also to define the scope of intended function consistent with § 91.175(l) and (m).

Type Certification Basis

Under the provisions of 14 CFR 21.101, the Federal Express Corporation must show that the McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes, as modified, comply with the regulations in the U.S. type certification basis established for those airplanes. The U.S. type certification basis for the airplanes is established in accordance with §§ 21.21 and 21.17, and the type certification application date. The U.S. type certification basis for these model airplanes is listed in Type Certificate Data Sheet No. A22WE, revision 7, dated May 24, 2005, which covers all variants of the DC-10, MD-10, and MD-11 airplanes.

In addition, the certification basis includes certain special conditions and exemptions that are not relevant to these special conditions. Also, if the regulations incorporated by reference do not provide adequate standards with respect to the change, the applicant must comply with certain regulations in effect on the date of application for the change.

If the Administrator finds that the applicable airworthiness regulations (*i.e.*, part 25 as amended) do not contain adequate or appropriate safety standards for the McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes modified by Federal Express because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36.

Special conditions, as defined in § 11.19, are issued in accordance with § 11.38 and become part of the type certification basis in accordance with § 21.101.

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the

same type certificate to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model.

Novel or Unusual Design Features

The McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes will incorporate an EFVS, which is a novel or unusual design feature. The EFVS is a novel or unusual design feature because it projects a video image derived from a FLIR camera through the HUD. The EFVS image is projected in the center of the "pilot compartment view," which is governed by § 25.773. The image is displayed with HUD symbology and overlays the forward outside view. Therefore, § 25.773 does not contain appropriate safety standards for the EFVS display.

Operationally, during an instrument approach, the EFVS image is intended to enhance the pilot's ability to detect and identify "visual references for the intended runway" [see § 91.175(l)(3)] to continue the approach below decision height or minimum descent altitude. Depending on atmospheric conditions and the strength of infrared energy emitted and/or reflected from the scene, the pilot can see these visual references in the image better than he or she can see them through the window without EFVS.

Scene contrast detected by infrared sensors can be much different from that detected by natural pilot vision. On a dark night, thermal differences of objects which are not detectable by the naked eye will be easily detected by many imaging infrared systems. On the other hand, contrasting colors in visual wavelengths may be distinguished by the naked eye but not by an imaging infrared system. Where thermal contrast in the scene is sufficiently detectable, the pilot can recognize shapes and patterns of certain visual references in the infrared image. However, depending on conditions, those shapes and patterns in the infrared image can appear significantly different than they would with normal vision. Considering these factors, the EFVS image needs to be evaluated to determine that it can be accurately interpreted by the pilot.

The image may improve the pilot's ability to detect and identify items of interest. However, the EFVS needs to be evaluated to determine that the imagery allows the pilot to perform the normal duties of the flightcrew and adequately see outside the window through the image, consistent with the safety intent of § 25.773(a)(2).

Compared to a HUD displaying the EFVS image and symbology, a HUD that only displays stroke-written symbols is

easier to see through. Stroke symbology illuminates a small fraction of the total display area of the HUD, leaving much of that area free of reflected light that could interfere with the pilot's view out the window through the display. However, unlike stroke symbology, the video image illuminates most of the total display area of the HUD (approximately 30 degrees horizontally and 25 degrees vertically) which is a significant fraction of the pilot compartment view. The pilot cannot see around the larger illuminated portions of the video image, but must see the outside scene through it.

Unlike the pilot's external view, the EFVS image is a monochrome, two-dimensional display. Many, but not all, of the depth cues found in the natural view are also found in the image. The quality of the EFVS image and the level of EFVS infrared sensor performance could depend significantly on conditions of the atmospheric and external light sources. The pilot needs adequate control of sensor gain and image brightness, which can significantly affect image quality and transparency (*i.e.*, the ability see the outside view through the image). Certain system characteristics could create distracting and confusing display artifacts. Finally, because this is a sensor-based system intended to provide a conformal perspective corresponding with the outside scene, the system must be able to ensure accurate alignment.

Therefore, safety standards are needed for each of the following factors:

- An acceptable degree of image transparency;
- Image alignment;
- Lack of significant distortion; and
- The potential for pilot confusion or misleading information.

Section 25.773, Pilot compartment view, specifies that "Each pilot compartment must be free of glare and reflection that could interfere with the normal duties of the minimum flight crew * * *" In issuing § 25.773, the FAA did not anticipate the development of EFVSs and does not consider § 25.773 to be adequate to address the specific issues related to such a system. Therefore, the FAA has determined that special conditions are needed to address the specific issues particular to the installation and use of an EFVS.

Discussion

The EFVS is intended to function by presenting an enhanced view during the approach. This enhanced view would help the pilot to see and recognize external visual references, as required by § 91.175(l), and to visually monitor

the integrity of the approach, as described in FAA Order 6750.24D ("Instrument Landing System and Ancillary Electronic Component Configuration and Performance Requirements," dated March 1, 2000).

Based on this approved functionality, users would seek to obtain operational approval to conduct approaches—including approaches to Type I runways—in visibility conditions much lower than those for conventional Category I.

The purpose of these special conditions is to ensure that the EFVS to be installed can perform the following functions:

- Present an enhanced view that would aid the pilot during the approach.
- Provide enhanced flight visibility to the pilot that is no less than the visibility prescribed in the standard instrument approach procedure.
- Display an image that the pilot can use to detect and identify the "visual references for the intended runway" required by § 91.175(l)(3) to continue the approach with vertical guidance to 100 feet height above the touchdown zone elevation.

Depending on the atmospheric conditions and the particular visual references that happen to be distinctly visible and detectable in the EFVS image, these functions would support its use by the pilot to visually monitor the integrity of the approach path.

Compliance with these special conditions does not affect the applicability of any of the requirements of the operating regulations (*i.e.*, 14 CFR parts 91, 121, and 135). Furthermore, use of the EFVS does not change the approach minima prescribed in the standard instrument approach procedure being used; published minima still apply.

The FAA certification of this EFVS is limited as follows:

- The infrared-based EFVS image will not be certified as a means to satisfy the requirements for descent below 100 feet height above touchdown (HAT).
- The EFVS may be used as a supplemental device to enhance the pilot's situational awareness during any phase of flight or operation in which its safe use has been established.

An EFVS image may provide an enhanced image of the scene that may compensate for any reduction in the clear outside view of the visual field framed by the HUD combiner. The pilot must be able to use this combination of information seen in the image and the natural view of the outside scene seen through the image as safely and effectively as the pilot would use a pilot

compartment view without an EVS image that is compliant with § 25.773. This is the fundamental objective of the special conditions.

The FAA will also apply additional certification criteria, not as special conditions, for compliance with related regulatory requirements, such as §§ 25.1301 and 25.1309. These additional criteria address certain image characteristics, installation, demonstration, and system safety.

Image characteristics criteria include the following:

- Resolution,
- Luminance,
- Luminance uniformity,
- Low level luminance,
- Contrast variation,
- Display quality,
- Display dynamics (*e.g.*, jitter, flicker, update rate, and lag), and
- Brightness controls.

Installation criteria address visibility and access to EFVS controls and integration of EFVS in the cockpit.

The EFVS demonstration criteria address the flight and environmental conditions that need to be covered.

The FAA also intends to apply certification criteria relevant to high intensity radiated fields (HIRF) and lightning protection.

Applicability

As discussed above, these special conditions are applicable to McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes. Should the Federal Express Corporation apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A22WE to incorporate the same novel or unusual design feature, the special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes modified by the Federal Express Corporation. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause

exists for adopting these special conditions upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

■ The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

■ Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for McDonnell Douglas Model MD-10-10F and MD-10-30F airplanes modified by the Federal Express Corporation.

1. The EFVS imagery on the HUD must not degrade the safety of flight or interfere with the effective use of outside visual references for required pilot tasks during any phase of flight in which it is to be used.

2. To avoid unacceptable interference with the safe and effective use of the pilot compartment view, the EFVS device must meet the following requirements:

a. The EFVS design must minimize unacceptable display characteristics or artifacts (*e.g.* noise, "burlap" overlay, running water droplets) that obscure the desired image of the scene, impair the pilot's ability to detect and identify visual references, mask flight hazards, distract the pilot, or otherwise degrade task performance or safety.

b. Control of EFVS display brightness must be sufficiently effective in dynamically changing background (ambient) lighting conditions to prevent full or partial blooming of the display that would distract the pilot, impair the pilot's ability to detect and identify visual references, mask flight hazards, or otherwise degrade task performance or safety. If automatic control for image brightness is not provided, it must be shown that a single manual setting is satisfactory for the range of lighting conditions encountered during a time-critical, high workload phase of flight (*e.g.*, low visibility instrument approach).

c. A readily accessible control must be provided that permits the pilot to immediately deactivate and reactivate display of the EFVS image on demand.

d. The EFVS image on the HUD must not impair the pilot's use of guidance

information or degrade the presentation and pilot awareness of essential flight information displayed on the HUD, such as alerts, airspeed, attitude, altitude and direction, approach guidance, windshear guidance, TCAS resolution advisories, or unusual attitude recovery cues.

e. The EFVS image and the HUD symbols—which are spatially referenced to the pitch scale, outside view and image—must be scaled and aligned (*i.e.*, conformal) to the external scene. In addition, the EFVS image and the HUD symbols—when considered singly or in combination—must not be misleading, cause pilot confusion, or increase workload. There may be airplane attitudes or cross-wind conditions which cause certain symbols (*e.g.*, the zero-pitch line or flight path vector) to reach field of view limits, such that they cannot be positioned conformally with the image and external scene. In such cases, these symbols may be displayed but with an altered appearance which makes the pilot aware that they are no longer displayed conformally (for example, “ghosting”).

f. A HUD system used to display EFVS images must, if previously certified, continue to meet all of the requirements of the original approval.

3. The safety and performance of the pilot tasks associated with the use of the pilot compartment view must not be degraded by the display of the EFVS image. These tasks include the following:

a. Detection, accurate identification and maneuvering, as necessary, to avoid traffic, terrain, obstacles, and other hazards of flight.

b. Accurate identification and utilization of visual references required for every task relevant to the phase of flight.

4. Compliance with these special conditions will enable the EFVS to be used during instrument approaches in accordance with § 91.175(l) such that it may be found acceptable for the following intended functions:

a. Presenting an image that would aid the pilot during a straight-in instrument approach.

b. Enabling the pilot to determine that there is sufficient “enhanced flight visibility,” as required by § 91.175(l)(2), for descent and operation below minimum descent altitude/decision height (MDA)/(DH).

c. Enabling the pilot to use the EFVS imagery to detect and identify the “visual references for the intended runway,” required by § 91.175(l)(3), to continue the approach with vertical guidance to 100 feet height above touchdown zone elevation.

5. Use of EFVS for instrument approach operations must be in accordance with the provisions of § 91.175(l) and (m). Appropriate limitations must be stated in the Operating Limitations section of the airplane flight manual to prohibit the use of the EFVS for functions that have not been found to be acceptable.

Issued in Renton, Washington, on August 9, 2005.

Ali Bahrami,

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

[FR Doc. 05-16518 Filed 8-19-05; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-20662; Directorate Identifier 2004-NM-191-AD; Amendment 39-14225; AD 2005-17-04]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model DC-10-10, DC-10-10F, DC-10-15, DC-10-30, DC-10-30F (KC-10A and KDC-10), DC-10-40, DC-10-40F, MD-10-10F, and MD-10-30F Airplanes; and Model MD-11 and MD-11F Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain McDonnell Douglas airplanes. This AD requires a general visual inspection for damage to the Firex discharge pipes and wye assembly of the fire extinguishing system of the number 2 engine; and corrective and other specified actions, as applicable. This AD results from reports of freezing damage to the Firex discharge pipes and wye assembly of the number 2 engine, and one report of a level 1 ENG FIRE AGENT LO alert during flight. We are issuing this AD to prevent accumulation of water in the discharge pipes and possible consequent freezing damage to the discharge pipes and wye assembly, which could lead to failure of the fire extinguishing system during a fire in the number 2 engine.

DATES: Effective September 26, 2005.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of September 26, 2005.

ADDRESSES: You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Nassif Building, Room PL-401, Washington, DC.

Contact Boeing Commercial Airplanes, Long Beach Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Data and Service Management, Dept. C1-L5A (D800-0024), for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Samuel Lee, Aerospace Engineer, Propulsion Branch, ANM-140L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5262; fax (562) 627-5210.

SUPPLEMENTARY INFORMATION:

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the **ADDRESSES** section.

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to certain McDonnell Douglas airplanes. That NPRM was published in the **Federal Register** on March 22, 2005 (70 FR 14432). That NPRM proposed to require a general visual inspection for damage to the Firex discharge pipes and wye assembly of the fire extinguishing system of the number 2 engine; and corrective and other specified actions, as applicable.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments that have been received on the NPRM.

Explanation of New Relevant Service Information

Since we issued the NPRM, Boeing has released Boeing Alert Service Bulletin DC10-26A065, Revision 1, dated May 20, 2005; and Boeing Alert Service Bulletin MD11-26A060, Revision 1, dated May 10, 2005. We have reviewed the procedures in the revised service bulletins and determined that they are essentially the