

Part 17—Sales of Agricultural Commodities Made Available Under Title I of the Agricultural Trade Development and Assistance Act of 1954, as Amended

1. The authority citation for part 17 continues to read as follows:

Authority: 7 U.S.C. 1701–1704, 1731–1736b, 1736f, 5676.; E.O. 12220, 45 FR 44245.

2. Section 17.1(b)(3) is revised to read as follows:

§ 17.1 General.

* * * * *

(b) * * *

(3) A private entity must maintain a bona fide business office in the United States and have a person, principal, or agent on whom service of judicial process may be had in the United States unless the General Sales Manager determines that there are adequate assurances of repayment to CCC for the financing extended by CCC.

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Signed at Washington, DC, on October 14, 1998.

Lon Hatamiya,

Administrator, Foreign Agricultural Service and Vice President, Commodity Credit Corporation.

[FR Doc. 98–29588 Filed 11–4–98; 8:45 am]

BILLING CODE 3410–10–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM148; Special Conditions No. 25–141–SC]

Special Conditions: Boeing Model 777 Series Airplanes; Seats With Articulating Seat Backs

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for Boeing Model 777 series airplanes with articulating seat backs. The applicable 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 provided by the existing airworthiness standards.

EFFECTIVE DATE: December 7, 1998.

FOR FURTHER INFORMATION CONTACT: Jeff Gardlin, Propulsion, Mechanical Systems, and Crashworthiness Branch,

ANM–112, Transport Airplane Directorate, Aircraft Certification Service, FAA, 1601 Lind Avenue SW., Renton, Washington 98055–4056; telephone (206) 227–2136; facsimile (425) 227–1149.

SUPPLEMENTARY INFORMATION:

Background

On April 15, 1998, the Boeing Company applied for a change to Type Certificate No. T00001SE to include Model 777 series airplanes equipped with seats with articulating seat backs (seats that have a portion of the seat back that moves under inertia loads). Sicma Aero Seat, a Boeing supplier, has designed a seat for installation on a Boeing 777–300 airplane with an articulating seat back that is designed to rotate forward under a prescribed inertial load. The prescribed inertial load is slightly below the 16g test condition of § 25.562. The inertial load causes the seat back mounted video monitor and headrest assembly to partially separate from the seat back and pivot forward. The goal of the design is to reduce the mass of the upper seat back subject to impact, thereby reducing the Head Injury Criteria (HIC) measurement and enhancing passenger safety.

Section 25.562 specifies the dynamic test criteria for each seat type installed in the airplane. The pass/fail criteria for these seats include structural as well as human tolerance criteria. In particular, the regulations require that persons not suffer serious head injury under the conditions specified in the tests, and that a HIC measurement of not more than 1000 units be recorded, should contact with the cabin interior occur. While the test conditions described in this section are specific, it is the intent of the requirement that an adequate level of head injury protection be provided for crash severities up to and including that specified.

The FAA has established guidance, known as “simplified HIC certification,” described in a February 1996 Transport Airplane Directorate memorandum, which provides a simplified procedure for demonstrating compliance with the HIC requirements of § 25.562(c)(5). This procedure provides test conditions that meet the intent of the requirements, without causing excessive testing to be performed. The typical seat back has three areas that are considered head strike zones within the +/- 10-degree yaw range of impact orientation. The procedure describes two different tests that address these three head strike zones for the majority of cases.

Because § 25.562 and FAA guidance do not adequately address seats with

articulating seat backs, the FAA recognizes that appropriate pass/fail criteria need to be developed that do fully address the safety concerns specific to occupants of these seats.

Type Certification Basis

Under the provisions of 14 CFR 21.101, Boeing must show that Model 777 airplanes equipped with seats with articulating seat backs comply with the regulations in the U.S. type certification basis established for the Model 777 airplane. The U.S. type certification basis for the Model 777 is established in accordance with 14 CFR 21.29 and 21.17 and the type certification application date. The U.S. type certification basis is listed in Type Certificate Data Sheet No. T00001SE.

If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR Part 25 as amended) do not contain adequate or appropriate safety standards for Boeing Model 777 series airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of 14 CFR 21.16 to establish a level of safety equivalent to that established in the regulations.

In addition to the applicable airworthiness regulations and special conditions, the Boeing Model 777 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 appropriate, are issued in accordance with 14 CFR 11.49 after public notice, as required by 14 CFR 11.28 and 11.29(b), and become part of the type certification basis in accordance with 14 CFR 21.101(b)(2). Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, or should any other model already included on the same type certificate be modified to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

Novel or Unusual Design Features

The Boeing Company has proposed installing seats with articulating seat backs on a Boeing Model 777–300 airplane. The articulating seat back is designed to rotate forward under a prescribed inertial load. The prescribed inertial load is slightly below the 16g test condition specified in § 25.562. The inertial load causes the seat back mounted video monitor and headrest

assembly to partially separate from the seat back and pivot forward. The goal of the design is to reduce the mass of the upper seat back subject to impact, thereby reducing the HIC and enhancing passenger safety.

The Federal Aviation Regulations (FAR) state the performance criteria for head injury protection in objective terms. Additionally, as discussed earlier in this document, the FAA has established further guidance to address head injury protection for the majority of cases. However, none of these criteria are adequate to address the specific issues raised concerning seats with articulating seat backs. The FAA has therefore determined that, in addition to the requirements of 14 CFR part 25, special conditions are needed to address requirements particular to installation of seats with articulating seat backs.

Accordingly, in addition to the passenger injury criteria specified in 14 CFR 25.562 and 25.785, Boeing must also comply with these special conditions for Model 777 series airplanes equipped with seats with articulating seat backs. Note that HIC, which is addressed in this special condition, does not address occupant injury due to contact with sharp edges or protrusions. Damage to the anthropomorphic test device (ATD) may be used as part of the evaluation of protrusions and sharp edges in demonstrating compliance with § 25.785(b). Other conditions may be developed, as needed, based on further FAA review and discussions with the manufacturer and civil aviation authorities.

Discussion

The seat with the articulating seat back is a new and complex design that warrants additional requirements to ensure an equivalent level of safety to that provided by the regulations. This seat reduces the effective mass that an occupant contacts during a high inertial load, thereby increasing the amount of head injury protection. However, additional considerations are necessary to ensure that the articulating seat back design does not introduce other hazards to occupants. If the articulating seat back fails to break away at the designed inertial load, the seat back may remain rigid, resulting in a significantly higher head injury than allowed for in the regulations. To ensure that the occupant does not contact a rigid seat back, the seat back must break away each time the designed break away inertial load is encountered.

In addition, it is important to evaluate the articulating seat back at lower values than the designed break away inertial

load. During a lower inertial load, the occupant may also contact the seat. Since the seat will not break away prior to the occupant contacting the seat during this lower inertial load, the occupant may receive a more severe head injury than during an event occurring at the designed break away inertial load. The intent of the regulations is that the occupant is protected from head injury for crash severities up to and including that specified.

When the articulating seat back breaks away, the video monitor pivots and moves forward, leaving a rectangular opening in the seat back. This opening could pose an entrapment hazard to the person seated behind the seat. During any testing for certification, the head must not become entrapped. In addition, the head must not become entrapped in any other foreseeable operating conditions for the range of occupants.

The articulating seat back may have protrusions and/or recessed areas (i.e., bottom lip of the seat back opening) that pose a head injury hazard to the occupant during emergency conditions. As stated in § 25.562(c)(5), the head impact for a seat occupant cannot exceed a HIC of 1,000 units. The "simplified HIC certification" procedure is commonly used to demonstrate compliance with § 25.562(c)(5). Due to the non-standard articulating seat back configuration, the "simplified HIC certification" procedure alone may not be sufficient for demonstrating compliance with § 25.562(c)(5). The ATD must come in contact with these protrusions or recessed areas of the seat back opening during testing. If the ATD does not contact these areas using the "simplified HIC certification" procedure, additional testing will be required to demonstrate compliance with § 25.562(c)(5).

Discussion of Comments

Notice of Proposed Special Conditions No. 25-98-03-SC for Model 777 series airplanes equipped with articulating seat backs was published in the **Federal Register** on June 4, 1998 (63 FR 30423). Six commenters responded.

One commenter had no objection to the special conditions. Two of the commenters generally agreed with the need for special conditions, but requested clarifications regarding certain of the specific conditions. The remaining three commenters did not agree that special conditions were warranted.

Several commenters requested a more specific definition regarding the level of reliability intended by the special

conditions. Commenters contend that, while a reliable system is desirable, the level of reliability should be made clear. The FAA agrees that the term "reliable" is open to interpretation and should be clarified. In this context, the FAA intends that the system be demonstrated to perform as reliably as other means of head injury protection. This will require testing to establish that the design results in repeatable performance. The FAA considers that 18 successful tests, without failure, would constitute acceptable performance. The FAA notes that this will require only three dynamic tests, since 6 seatbacks can be tested at once.

Other commenters discuss the requirement that the HIC be shown to be less than 1000 for other impact conditions, where the seatback does not break away. Some commenters believe that the wording of the special conditions implies multiple tests at various conditions. The intent of this condition is to ensure that the articulating feature will activate at the minimum impact level that could produce 1000 HIC. Therefore, a test at the maximum impact at which the seatback does not deploy that results in a HIC of less than 1000 would be sufficient. The FAA agrees that the wording of this requirement is not entirely clear, and it has been changed accordingly.

Another comment concerned the discussion in the preamble regarding lacerations and damage to the ATD. The commenters do not agree that the ATD is an acceptable vehicle for making such assessments, and question whether lacerations qualify as "serious" injuries. This discussion is not part of the special conditions themselves, but rather an informational aside concerning the utility of the HIC measurement. The FAA is aware that the ATD will not behave in the same manner as a human being with respect to laceration and will take this into account. In this regard, this seat is not considered particularly different than other seats, and therefore no special condition on this matter is proposed. The issue has been adequately addressed on other designs up to now.

The issue of head entrapment was also the subject of several comments, especially concerning the language "under any other foreseeable operating or crash conditions." The intent of this requirement is to ensure that the opening created in the seatback does not have the potential to entrap an occupant's head, even if the entrapment does not happen to occur during the specific dynamic tests conducted to demonstrate compliance with other

requirements. That is, just because the head of the ATD might not become entrapped does not necessarily indicate that entrapment is not an issue. Nonetheless, the FAA agrees that considering the phrase "any other foreseeable crash condition" literally would require an excessive amount of tests. The severity of the impact is considered limited by the requirements of § 25.562. It is the potential for entrapment that might be variable, depending on occupant size, or precise angle of impact. The FAA has determined that these variables can be assessed using the dynamic tests that are conducted as a source of baseline data.

Another commenter requested quantification of the term "entrapment," and correlation between the energy needed to entrap the head of the ATD, versus what would be required to entrap the head of a person. In this regard, the FAA considers that entrapment of the ATD's head is sufficient to indicate that a person's head would also be entrapped. The remaining conditions, where the ATD's head is not entrapped, but a person's head would be, are difficult to quantify. The FAA does not have quantitative criteria available to make this assessment in advance, but will review the data that are generated. Considering that smaller occupants will not impact the seatback as high as would larger occupants, it may be that the test with the ATD impacting the opening will be sufficient to show compliance. The wording of the special conditions has been modified to reflect the discussion above.

One commenter notes that the HIC evaluation of a precise impact target (the lip or edge of the opening) specified in the special conditions will be difficult to achieve, due to the variability in such tests. The FAA recognizes that there is difficulty in testing with a precise target, but this should be a test objective. The FAA will consider the results of the tests in conjunction with other data supplied by the applicant to determine compliance with this requirement if a direct assessment proves impractical.

Three commenters generally disagree with the special conditions and contend that either the conditions are not justified, or that the existing rules already address them.

One commenter believes that reliability should not be a requirement of the special condition and is not contained within the dynamic test performance standard. Other commenters agree that reliability is an issue, but contend that the existing regulations already require it by virtue of § 25.601, which prohibits use of

features that have been shown to be unreliable. The FAA agrees that the dynamic performance standards do not explicitly address reliability. Section 25.601 has not been applied in this manner, and since the features employed here are novel, the feature's reliability has not been demonstrated or determined. Typically in type certification, the assumption is that the type design is represented during certification testing and that all such articles incorporating that type design will perform identically. In this case, the dynamic performance of a feature intended to provide injury protection might be demonstrated only one time. In making this provision a part of the special conditions, the FAA has determined that a single certification test is not adequate to show compliance.

These commenters also question the need to address HIC when the seatback does not break away. They contend that the conditions as described are too numerous to address, or that the potential for injury in this case is too low to consider. Regarding the former issue, the special condition has been clarified as noted above. Regarding the latter issue, the FAA would be willing to consider the question of whether the potential for HIC greater than 1000 was negligible when the seatback does not break away, if there are credible data to support that conclusion. Nonetheless, the issue needs to be addressed, whether or not additional tests result.

These commenters also questioned the issue of entrapment of the head as already addressed by the regulations. Owing to the particular design, the issue of entrapment is not considered to the extent necessary by the current regulations. As discussed above, the performance of the ATD in a particular test may not be indicative of the situation in general. In this case, the design tends to create a potential area for head entrapment as part of its intended operation. This must be addressed explicitly.

Commenters question whether the issue of HIC on the seatback opening is a requirement at all. These commenters contend that if no contact with the opening occurs during a certification test, then it is not required to be substantiated directly. The commenters cite previous FAA guidance concerning establishment of head strike envelopes and simplified test methods. The FAA notes that the methods cited are dependent on more or less homogeneous contact surfaces that are not sensitive to minor variation in head path. The articulating seatback creates a discontinuity in the impact surface that can only be addressed directly. That is,

if the discontinuous area is within the headstrike envelope it does not fall under the guidance previously issued. As noted above, the FAA recognizes the difficulty in trying to assess a specific target, but this must be the objective.

Comments related to the consideration of sharp edges parallel those discussed earlier, and again, are not part of the special conditions themselves.

Many commenters also noted that proposed Special Condition 5 is essentially a restatement of § 25.562(c)(8). After further consideration, the FAA agrees that this special condition is redundant, and it is therefore withdrawn.

Except as noted above, the special conditions for the Model 777 series airplanes equipped with articulating seat backs are adopted as proposed.

Applicability

As discussed above, these special conditions are applicable to the Model 777 series airplanes. Should Boeing 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 under the provisions of 14 CFR 21.101(a)(1).

Conclusion

This action affects only certain novel or unusual design features on the Boeing Model 777 series airplanes. It is not a rule of general applicability, and it affects only the manufacturer who applied to the FAA for approval of these features on the airplane.

List of Subjects in 14 CFR Part 25

Air transportation, Aircraft, Aviation safety, Safety.

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 Boeing Model 777 series airplanes equipped with seats with articulating seat backs:

1. The articulating seat back must reliably break away at the designed inertial load.
2. The HIC value must not exceed 1,000 units under the maximum inertia loading conditions under which the articulating seat back will not break away.

3. The head must not become entrapped in the seat back opening created by the articulating seat back, during any testing conducted to demonstrate compliance with §§ 25.562 and 25.785(b), and these special conditions. The head must also not become entrapped in the seat back opening during any other foreseeable operating conditions.

4. The HIC must not exceed 1,000 units for any obvious protrusions or recessed areas of the seat back opening (i.e., bottom lip of the seat back opening). The anthropomorphic test device (ATD) must come in contact with these protrusions or recessed areas of the seat back opening.

Issued in Renton, Washington, on October 23, 1998.

John J. Hickey,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 98-29626 Filed 11-4-98; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97-SW-36-AD; Amendment 39-10868; AD 98-23-04]

RIN 2120-AA64

Airworthiness Directives; Eurocopter France Model AS 332C, L, and L1 Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to Eurocopter France Model AS 332C, L, and L1 helicopters that requires replacing main rotor blades with modified main rotor blades. This amendment is prompted by reports of an investigation that found broken braids on main rotor blade de-icers. The actions specified by this AD are intended to prevent loss of deicing capabilities of the main rotor blades, adverse performance during flight in icing conditions, and subsequent loss of control of the helicopter.

DATES: Effective December 10, 1998.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of December 10, 1998.

ADDRESSES: The service information referenced in this AD may be obtained from American Eurocopter Corporation,

2701 Forum Drive, Grand Prairie, Texas 75053-4005. This information may be examined at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Mr. Robert McCallister, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5121, fax (817) 222-5961.

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 Eurocopter France Model AS 332C, L, and L1 helicopters was published in the **Federal Register** on May 7, 1998 (63 FR 25182). That action proposed to require replacing main rotor blades with modified main rotor blades.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The FAA has determined that air safety and the public interest require the adoption of the rule as proposed except for a change in the Technical Instructions referenced from number 230b to 230c. This change was made because the new Technical Instructions add a clarifying note and figure useful in accomplishing the requirements of this AD. The FAA has determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

The FAA estimates that 3 helicopters of U.S. registry will be affected by this AD, that it will take approximately 20 work hours per helicopter to accomplish the required actions, and that the average labor rate is \$60 per work hour. Required parts will be provided at no cost by the manufacturer. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be \$3600 per helicopter.

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 adding a new airworthiness directive to read as follows:

AD 98-23-04 Eurocopter France:

Amendment 39-10868. Docket No. 97-SW-36-AD.

Applicability: Model AS 332C, L, and L1 helicopters, with main rotor blades, part number (P/N) 332A11-030-03 or 332A11-030-04, installed, certificated in any category.

Note 1: This AD applies to each helicopter 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 helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph (c) to request approval from the FAA. This approval may address either no action, if the current configuration eliminates the unsafe condition, or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any helicopter from the applicability of this AD.