

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 39**

[Docket No. 97-CE-20-AD]

RIN 2120-AA64

Airworthiness Directives; Raytheon Aircraft Company 65, 90, 99, 100, 200, 300, 1900, and 2000 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes to adopt a new airworthiness directive (AD) that would apply to all Raytheon Aircraft Company (Raytheon) 65, 90, 99, 100, 200, 300, 1900, and 2000 series airplanes. The proposed action would require amending the Limitations Section of the airplane flight manual (AFM) to prohibit positioning the power levers below the flight idle stop or lifting the power levers while the airplane is in flight. This amendment would include a statement of consequences if the limitations are not followed. The proposed AD is a result of numerous incidents and five documented accidents involving airplanes equipped with turboprop engines where the propeller beta was improperly utilized during flight. The actions specified by the proposed AD are intended to prevent nose down pitch and a descent rate leading to aircraft damage and injury to personnel caused by the power levers being positioned below the flight idle stop or the power levers being lifted while the airplane is in flight.

DATES: Comments must be received on or before September 2, 1997.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 97-CE-20-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday through Friday, holidays excepted.

Information related to the proposed AD may be examined at the Rules Docket at the address above.

FOR FURTHER INFORMATION CONTACT: William Schinstock, Aerospace Engineer, Wichita Aircraft Certification Office, FAA, 1801 Airport Road, Wichita, Kansas 67209; telephone (316) 946-4162; facsimile (316) 946-4407.

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 that summarizes 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 No. 97-CE-20-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, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 97-CE-20-AD, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Discussion

The FAA has received reports of 14 occurrences in recent years of incidents or accidents on airplanes equipped with turboprop engines related to intentional or inadvertent operation of the propellers in the beta range during flight. Beta is the range of propeller operation intended for use during taxi, ground idle, or reverse operations as controlled by the power lever settings aft of the flight idle stop.

Of the 14 documented in-flight beta occurrences, five were classified as accidents. In-flight beta operation results that preceded the accidents can be classified in one of two categories: (1) Permanent engine damage and total loss of thrust on all engines when the propeller that was operating in the beta

range drove the engines to overspeed; and (2) loss of airplane control because at least one propeller operated in the beta range during flight.

The most recent accident occurred when both engines of a Saab Model 340B permanently lost power after eight seconds of beta range propeller operation. The propellers subsequently drove the engines into overspeed, which resulted in internal engine failure.

Communication between the FAA and the public during a meeting held on June 11-12, 1996, in Seattle, Washington, revealed a lack of consistency of the information on in-flight beta operation contained in the airplane flight manual (AFM) for airplanes not certificated for in-flight operation with the power levers below the flight idle stop. Airplanes that are certificated for this type of operation are not affected by the above-referenced conditions.

The FAA's Determination

After examining the circumstances and reviewing all available information related to the incidents and accidents referenced above, the FAA has determined that:

- All airplanes equipped with turboprop engines (provided the airplane is not certificated for in-flight operation with the power levers below the flight idle stop) should have information in the Limitations Section of the AFM that prohibits positioning the power levers below the flight idle stop or lifting the power levers while the airplane is in flight; and
- Because Raytheon Models 65-90, 65-A90, 65-A90-1, 65-A90-3, 65-A90-4, B90, C90, C90(SE), C90A, C90B, E90, F90, H90, 99, 99A, A99, A99A, B99, C99, 100, A100, A100A, A100C, B100, 200, 200C, 200CT, 200T, A200, A200C, A200CT, B200, B200C, B200T, B200CT, 300, B300, B300C, 1900, 1900C, 1900D, and 2000 airplanes are equipped with turboprop engines, are not certificated for in-flight operation with the power levers below the flight idle stop, and do not contain information in the Limitations Section of the AFM that explains the consequences of such operation, AD action should be taken. The proposed AD is intended to prevent nose down pitch and a descent rate leading to aircraft damage and injury to personnel caused by the power levers being positioned below the flight idle stop or the power levers being lifted while the airplane is in flight.

Explanation of the Provisions of the Proposed AD

Since an unsafe condition has been identified that is likely to exist or

develop in other Raytheon airplanes (Models previously referenced) airplanes of the same type design, the proposed AD would require amending the Limitations Section of the AFM to prohibit positioning the power levers below the flight idle stop or lifting the power levers while the airplane is in flight, including a statement of consequences if the limitations are not followed. This AFM amendment shall consist of the following language:

Do not lift the power levers in flight. Lifting the power levers in flight or moving the power levers in flight below the flight idle position could result in nose down pitch and a descent rate leading to aircraft damage and injury to personnel.

Possible Alternative to the Proposed AD

Raytheon is currently in the process of developing AFM revisions for the affected airplanes. If these AFM revisions are completed and approved by the FAA prior to issuance of the final rule, then incorporating these revisions into the AFM will be included as a method of complying with the AD.

Compliance Time of the Proposed AD

The FAA has determined that the compliance time of the proposed AD should be specified in calendar time instead of hours time-in-service. While the condition addressed by the proposed AD is unsafe while the airplane is in flight, the condition is not a result of repetitive airplane operation; the potential of the unsafe condition occurring is the same on the first flight as it is for subsequent flights. The proposed compliance time of "30 days after the effective date of this AD" would not inadvertently ground airplanes and would assure that all owners/operators of the affected airplanes accomplish the proposed action in a reasonable time period.

Cost Impact

The FAA estimates that 3,093 airplanes in the U.S. registry would be affected by the proposed AD, that it would take approximately 1 workhour per airplane to incorporate the proposed AFM amendment, and that the average labor rate is approximately \$60 an hour. Since an owner/operator who holds at least a private pilot's certificate as authorized by sections 43.7 and 43.11 of the Federal Aviation Regulations (14 CFR 43.7 and 43.11) can accomplish the proposed action, the only cost impact upon the public is the time it would take the affected airplane owner/operators to amend the AFM.

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 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) 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 has been placed 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]

Section 39.13 is amended by adding a new airworthiness directive (AD) to read as follows:

Raytheon Aircraft Company: Docket No. 97-CE-20-AD.

Applicability: Models 65-90, 65-A90, 65-A90-1, 65-A90-3, 65-A90-4, B90, C90, C90(SE), C90A, C90B, E90, F90, H90, 99, 99A, A99, A99A, B99, C99, 100, A100, A100A, A100C, B100, 200, 200C, 200CT, 200T, A200, A200C, A200CT, B200, B200C, B200T, B200CT, 300, B300, B300C, 1900, 1900C, 1900D, and 2000 airplanes, all serial numbers, certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area

subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) 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 within the next 30 days after the effective date of this AD, unless already accomplished.

To prevent nose down pitch and a descent rate leading to aircraft damage and injury to personnel caused by the power levers being positioned below the flight idle stop or the power levers being lifted while the airplane is in flight, accomplish the following:

(a) Amend the Limitations Section of the airplane flight manual (AFM) by inserting the following language:

"Do not lift the power lever in flight. Lifting the power levers in flight or moving the power levers in flight below the flight idle position could result in nose down pitch and a descent rate leading to aircraft damage and injury to personnel."

(b) This action may be accomplished by incorporating a copy of this AD into the Limitations Section of the AFM.

(c) Amending the AFM, as required by this AD, may be performed by the owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7), and must be entered into the aircraft records showing compliance with this AD in accordance with section 43.11 of the Federal Aviation Regulations (14 CFR 43.11).

(d) 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.

(e) An alternative method of compliance or adjustment of the compliance time that provides an equivalent level of safety may be approved by the Manager, Wichita Aircraft Certification Office (ACO), FAA, 1801 Airport Road, Wichita, Kansas. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Wichita ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Wichita ACO.

(f) Information related to this AD may be examined at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Issued in Kansas City, Missouri, on June 25, 1997.

James E. Jackson,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

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