

Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 95-SW-29-AD]

Airworthiness Directives; Robinson Helicopter Company Model R22 Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the superseding of an existing airworthiness directive (AD), applicable to Robinson Helicopter Company (Robinson) Model R22 helicopters, that currently requires revisions to the Limitations section, the Normal Procedures section, and the Emergency Procedures section of the R22 Rotorcraft Flight Manual, revised February 4, 1993. These revisions limit operations in high winds and turbulence; provide information about main rotor (M/R) stall and mast bumping; and, provide recommendations for avoiding these situations. Additionally, emergency procedures are provided for use should certain conditions be encountered. This action would require similar revisions to the Limitations, Normal Procedures and Emergency Procedures sections required by the existing AD, and would require a revision to the Limitations section to prohibit pilots without a certain level of experience and training from operating in the flight conditions specified by the AD. This proposal is prompted by indications that pilots who possess a certain level of experience and training are more able to recognize and react to the adverse meteorological conditions specified in the AD. The actions specified by the proposed AD are intended to prevent M/R stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter.

DATES: Comments must be received by October 27, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Assistant Chief Counsel, Attention: Rules Docket No. 95-SW-29-AD, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The Special Federal Aviation Regulation (SFAR) referenced in the proposed rule may be obtained from the FAA, Rotorcraft Standards Staff, 2601 Meacham Blvd., Fort Worth, Texas, 76137. This information may be examined at the FAA, Office of the Assistant Chief Counsel, 2601 Meacham Blvd., Room 663, Fort Worth, Texas.

FOR FURTHER INFORMATION CONTACT: Mr. Scott Horn, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Southwest Region, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5125, fax (817) 222-5961.

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 No. 95-SW-29-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, Office of the Assistant Chief Counsel, ATTENTION: Docket No. 95-SW-29-AD, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

Discussion

On February 23, 1995, the FAA issued AD 95-04-14, Amendment 39-9166 (60 FR 11613, March 2, 1995), which superseded Priority Letter AD 95-02-03, issued January 12, 1995, to require revisions to the Limitations section, the Normal Procedures section, and the Emergency Procedures section of the R22 Rotorcraft Flight Manual, revised February 4, 1993. These revisions limit operations in high winds and turbulence; provide information about M/R stalls and mast bumping; and provide recommendations for avoiding these situations. Additionally, emergency procedures are provided for use should certain conditions be encountered. That action was prompted by 26 accidents since 1981 that resulted in fatalities and involved the M/R blades contacting the helicopter's fuselage. M/R stall and mast bumping may have caused these M/R blade contacts with the Fuselage. Limited pilot experience in rotorcraft has been identified as common to these accidents. High winds and turbulence was also noted in these accidents. Airspeed and low rotor RPM could also be influencing factors in these accidents of M/R blades contacting the fuselage. Flight in strong or gusty winds or in areas of moderate, severe, or extreme turbulence can degrade the helicopter handling qualities, thereby creating an unsafe condition for those pilots with a level of experience of less than 200 hours of helicopter time, of which 50 hours or less is in the Model R22 helicopter. The requirements of the existing AD are intended to prevent M/R stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter.

Since the issuance of that AD, the FAA has continued to analyze the

accident data and develop new information. The FAA conducted a Flight Standardization Board (FSB); issued a SFAR; and, in conjunction with the manufacturer, developed an awareness training program. The FSB issued a report that specified FAA minimum training, evaluation, and currency requirements applicable to persons operating the Robinson Model R22 helicopters under Federal Aviation Regulation (FAR) Part 91. The FSB determined a need for training designed to enhance the pilot's awareness of the unique characteristics associated with operating the Model R22 helicopter. SFAR 73, issued February 27, 1995, identifies pilots that have 200 flight hours in helicopters, including at least 50 hours in the Model R22 helicopter, as having the experience necessary to recognize, as well as react to, situations that can cause M/R blade contact with the helicopter's fuselage. The SFAR also establishes criteria for flight instructors and requires that all individuals operating the R22 have awareness training and meet Part 61 flight review requirements. The awareness training described in the SFAR provides information on flight in turbulent conditions and the effects of reduced "G" operations. All individuals operating the Model R22 helicopter were required to have had this training prior to April 26, 1995. The accident data analyzed by the FAA indicates that, where turbulent conditions were listed as a causal factor, the pilots thought to be at the controls did not meet the SFAR experience requirement of 200 flight hours in helicopters, with at least 50 hours in the Model R22 helicopter. These data, when combined with the SFAR pilot experience and awareness training requirements, indicate that relief for pilots who meet these requirements is appropriate. Additionally, the references to wind shear in the existing AD have been deleted because the equipment necessary to recognize wind shear is not available and the limitation for turbulence applies to wind shear situations.

Since an unsafe condition has been identified that is likely to exist or develop on other Robinson Model R22 helicopters of the same type design, the proposed AD would supersede AD 95-04-14 to require revisions to the Normal Procedures, Emergency procedures, and limitations section of the R22 Rotorcraft Flight Manual. The revision to the Limitations section states that the limitations of paragraph a. are to be observed when the pilot manipulating the controls have not taken the

prescribed awareness training specified in SFAR 73 and has not logged a total of 200 hours of helicopter flight time, at least 50 of which must be in the Model R22 helicopter. The paragraph b. revisions to the Limitations section are to be observed by all pilots.

The FAA Estimates that 800 helicopters of U.S. registry would be affected by this proposed AD, that it would take approximately one-half work hour per helicopter to accomplish the proposed actions, and that the average labor rate is \$60 per work hour. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be \$24,000.

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 contracting 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:

§ 39.13 [Amended]

2. Section 39.13 is amended by removing Amendment 39-9166, and by adding a new airworthiness directive (AD), to read as follows:

Robinson Helicopter Company; Docket No. 95-SW-29-AD. Supersedes AD 95-04-14, Amendment 39-9166.

Applicability: Model R22 helicopters, 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 (b) 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.

Compliance: Required before further flight, unless accomplished previously.

Note 2: Regardless of the experience level of the pilot manipulating the controls or the amount or quality of the awareness training received by the pilot manipulating the controls, these changes to the flight manual are in no way intended to authorize flight in any condition(s) or under any circumstances(s) that are otherwise contrary to other Federal Aviation Regulations.

To prevent main rotor (M/R) stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system, and subsequent loss of control of the helicopter, accomplish the following:

(a) Insert the following information into the Model R22 Rotorcraft Flight Manual. Compliance with the Limitations section is mandatory. The Normal Procedures and Emergency Procedures sections are informational.

Limitations Section

The following limitations (1-3) are to be observed unless the pilot manipulating the controls has logged 200 or more flight hours in helicopters, at least 50 of which must be in the RHC Model R22 helicopter, and has completed the awareness training specified in Special Federal Regulation (SFAR) No. 73, issued February 27, 1995.

(1) Flight when surface winds exceed 25 knots, including gusts, is prohibited.

(2) Flight when surface wind gust spreads exceed 15 knots is prohibited.

(3) Continued flight in moderate, severe, or extreme turbulence is prohibited.

Adjust forward airspeed to between 60 knots indicated airspeed (KIAS) and 0.7 V_{ne}, but no lower than 57 KIAS, upon inadvertently encountering moderate, severe, or extreme turbulence.

Note: Moderate turbulence is turbulence that causes: (1) changes in altitude or attitude; (2) variations in indicated airspeed; and (3) aircraft occupants to feel definite strains against seat belts.

Normal Procedures Section

Note

Until the FAA completes its research into the conditions and aircraft characteristics that lead to main rotor blade/fuselage contact accidents, and corrective type design changes and operating limitations are identified, Model R22 pilots are strongly urged to become familiar with the following and comply with these recommended procedures.

Main Rotor Stall: Many factors may contribute to main rotor stall and pilots should be familiar with them. Any flight condition that creates excessive angle of attack on the main rotor blades can produce a stall. Low main rotor RPM, aggressive maneuvering high collective angle (often the result of high-density altitude, over-pitching [exceeding power available] during climb, or high forward airspeed) and slow response to the low main rotor RPM warning horn and light may result in main rotor stall. The effect of these conditions can be amplified in turbulence. Main rotor stall can ultimately result in contact between the main rotor and airframe. Additional information on main rotor stall is provided in the Robinson Helicopter Company Safety Notices SN-10, SN-15, SN-20, SN-24, SN-27, and SN-29.

Mast Bumping: Mast bumping may occur with a teetering rotor system when excessive main rotor flapping results from low "G" (load factor below 1.0) or abrupt control input. A low "G" flight condition can result from an abrupt cyclic pushover in forward flight. High forward airspeed, turbulence, and excessive sideslip can accentuate the adverse effects of these control movements. The excessive flapping results in the main rotor hub assembly striking the main rotor mast with subsequent main rotor system separation from the helicopter.

To avoid these conditions, pilots are strongly urged to follow these recommendations:

- (1) Maintain cruise airspeeds between 60 KIAS and 0.9 V_{ne} , but no lower than 57 KIAS.
- (2) Use maximum "power-on" RPM at all times during powered flight.
- (3) Avoid sideslip during flight. Maintain in-trim flight at all times.
- (4) Avoid large, rapid forward cyclic inputs in forward flight, and abrupt control inputs in turbulence.

Emergency Procedures Section

(1) Right Roll in Low "G" Condition

Gradually apply aft cyclic to restore positive "G" forces and main rotor thrust. Do not apply lateral cyclic until positive "G" forces have been established.

(2) Uncommanded Pitch, Roll, or Yaw Resulting From Flight in Turbulence

Gradually apply controls to maintain rotor RPM, positive "G" forces, and to eliminate sideslip. Minimize cyclic control inputs in turbulence; do not overcontrol.

(3) Inadvertent Encounter With Moderate, Severe, or Extreme Turbulence

If the area of turbulence is isolated, depart the area; otherwise, land the helicopter as soon as practical.

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used when approved by the Manager, Rotorcraft Standards Staff, Rotorcraft Directorate, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Standards Staff.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Rotorcraft Standards Staff.

(c) Special flight permits, pursuant to sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), will not be issued.

Issued in Fort Worth, Texas, on September 29, 1995.

Daniel P. Salvano,

Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 95-25225 Filed 10-11-95; 8:45 am]

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14 CFR Part 39

[Docket No. 95-SW-30-AD]

Airworthiness Directives; Robinson Helicopter Company Model R44 Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the superseding of an existing airworthiness directive (AD), applicable to Robinson Helicopter Company (Robinson) Model R44 helicopters, that currently requires revisions to the Limitations section, the Normal Procedures section, and the Emergency Procedures section of the R44 Rotorcraft Flight Manual, revised September 6, 1994. These revisions limit operations in high winds and turbulence; provide information about main rotor (M/R) stall and mast bumping; and, provide recommendations for avoiding these situations. Additionally, emergency procedures are provided for use should certain conditions be encountered. This action would require similar revisions to the Limitations, Normal Procedures and Emergency Procedures sections required by the existing AD, and would require a revision to the Limitations section to prohibit pilots without a certain level of experience and training from operating in the flight conditions

specified by this AD. This proposal is prompted by indications that pilots who possess a certain level of experience and training are more able to recognize and react to the adverse meteorological conditions specified in the AD. The actions specified by the proposed AD are intended to prevent M/R stall or mast bumping, which could result in the M/R blades contacting the fuselage causing failure of the M/R system and subsequent loss of control of the helicopter.

DATES: Comments must be received by October 27, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Assistant Chief Counsel, Attention: Rules Docket No. 95-SW-30-AD, 2601 Meacham Blvd, Room 663, Fort Worth, Texas 76137. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The Special Federal Aviation Regulation (SFAR) referenced in the proposed rule may be obtained from the FAA, Rotorcraft Standards Staff, 2601 Meacham Blvd., Fort Worth, Texas 76137. This information may be examined at the FAA, Office of the Assistant Chief Counsel, 2601 Meacham Blvd., Room 663, Fort Worth, Texas.

FOR FURTHER INFORMATION CONTACT: Mr. Scott Horn, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Southwest Region, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5125, fax (817) 222-5961.

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