



EASA Safety Information Bulletin

SIB No.: 2009 - 35
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Subject: **SFAR 73-2 - Robinson R-22/R-44 Special Training and Experience Requirements**

Ref. Publication: FAA 14 CFR Part 61

Description: Federal Aviation Administration has decided to maintain the existing special training and experience requirements in Special Federal Aviation Regulation (SFAR) No. 73 until the SFAR is revised or rescinded. SFAR No. 73 requires special training and experience for pilots operating the Robinson model R-22 or R-44 helicopters in order to maintain the safe operation of these helicopters. SFAR No. 73 also requires special training and experience for certified flight instructors conducting student instruction or flight reviews in the R-22 or R-44.

This amendment [Docket No.: FAA-2002-13744; Amendment No. SFAR 73-2] became effective June 29, 2009.

European Aviation Safety Agency - Certification Directorate – Flight Standards is recommending to NAAs to apply this amendment.

Applicability: Robinson R-22/R-44

Contact: For further information contact the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu.

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 61**

[Docket No.: FAA-2002-13744; Amendment No. SFAR 73-2]

RIN 2120-AJ27

Robinson R-22/R-44 Special Training and Experience Requirements

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action continues the existing special training and experience requirements in Special Federal Aviation Regulation (SFAR) No. 73 until the SFAR is revised or rescinded. SFAR No. 73 requires special training and experience for pilots operating the Robinson model R-22 or R-44 helicopters in order to maintain the safe operation of these helicopters. SFAR No. 73 also requires special training and experience for certified flight instructors conducting student instruction or flight reviews in the R-22 or R-44.

DATES: This amendment becomes effective June 29, 2009.

FOR FURTHER INFORMATION CONTACT: For technical questions about this final rule contact John D. Lynch, Certification and General Aviation Operations Branch, AFS-810, General Aviation and Commercial Division, 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 276-8212. For legal questions about this final rule contact Mike Chase, Office of Chief Counsel, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267-3110.

SUPPLEMENTARY INFORMATION:**Authority for This Rulemaking**

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, section 106, describes the authority of the FAA Administrator, including the authority to issue, rescind, and revise regulations. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Chapter 447—Safety Regulation. Under section 44701, the FAA is charged with promoting safe flight of civil aircraft in air commerce by prescribing regulations necessary for safety. Under section 44703, the FAA issues an airman certificate to an individual when we find, after

investigation, that the individual is qualified for, and physically able to perform the duties related to, the position authorized by the certificate. In this final rule, we continue the existing special training and experience requirements in Special Federal Aviation Regulation (SFAR) No. 73 and eliminate the termination date for SFAR No. 73 until further notice. This final rule ensures pilots have the training and experience necessary to operate these models of Robinson helicopters safely. For this reason, the final rule is within the scope of our authority and is a reasonable and necessary exercise of our statutory obligations.

I. Background

Part 61 of Title 14 of the Code of Federal Regulations (14 CFR part 61) details the certification requirements for pilots and flight instructors. Particular requirements for pilots and flight instructors in rotorcraft are found in Subparts C through G, and Appendix B of part 61. These requirements do not address any specific type or model of rotorcraft. However, in 1995 the Federal Aviation Administration (referred to as "we") determined that specific training and experience requirements are necessary for the safe operation of Robinson R-22 and R-44 model helicopters.

The R-22 is a 2-seat, reciprocating engine powered helicopter that is frequently used as a low-cost initial student training aircraft. The R-44 is a 4-seat helicopter with operating characteristics and design features that are similar to the R-22. The R-22 is the smallest helicopter in its class and incorporates a unique cyclic control and teetering rotor system. Certain aerodynamic and design features of the aircraft cause specific flight characteristics that require particular pilot awareness and responsiveness.

We found the R-22 met 14 CFR part 27 certification requirements and issued a type certificate in 1979. The small size and relatively low operating costs of this helicopter made it popular as a training or small utility aircraft. Thus, a significant number of the pilots operating R-22 helicopters were relatively inexperienced. Before issuance of SFAR No. 73 in 1995, the Robinson R-22 experienced a higher number of fatal accidents due to main rotor/airframe contact than other piston-powered helicopters. Many of these accidents were caused by low rotor revolutions per minute (RPM) or low "G" conditions that resulted in mast bumping or main rotor-airframe contact accidents. Aviation safety authorities attributed these accidents to pilot error

by inexperienced pilots. In our analysis of accident data prior to the first issuance of SFAR No. 73, we found that apparently qualified pilots may not be properly prepared to safely operate the R-22 and R-44 helicopters in certain flight conditions. Accidents in the R-22 and R-44 helicopters have declined markedly since SFAR No. 73 was issued.

II. Previous Regulatory Action

On March 1, 1995, the FAA published SFAR No. 73 (60 FR 11256). This SFAR required certain experience and training to perform pilot-in-command or certified flight instructor duties. SFAR No. 73 was issued on an emergency basis, with an expiration date of December 31, 1997. On November 21, 1997 the FAA published an NPRM (62 FR 62486) to extend SFAR No. 73 to December 31, 2002. The final rule (63 FR 660) extending SFAR No. 73 to December 31, 2002, was published on January 7, 1998. On November 14, 2002, the FAA published an NPRM (67 FR 69106) proposing to extend SFAR No. 73 an additional 5 years. On January 2, 2003, we reissued SFAR No. 73 (68 FR 39) and extended the rule's expiration date to March 31, 2008. On March 31, 2008, we extended SFAR No. 73 until June 30, 2009 (73 FR 17243). On August 7, 2008, we published an NPRM proposing to eliminate the termination date for SFAR No. 73.

III. Summary of Comments

The FAA received 3 brief (one page) comments in response to the proposed rule. All the commenters acknowledged the valuable safety benefits of SFAR No. 73 since 1995, though one commenter thought continuing the SFAR was no longer necessary because of the helicopter community's awareness of the flight characteristics and risks of 2-blade teetering rotor systems. Two commenters were generally supportive of continuing an SFAR for the R-22 and R-44 helicopters, though both commenters thought updating and fine tuning the regulation was needed. All three commenters focused on possible changes that relate to the separate requirements for each model that apply to both piloting and instructing in each model. Lowering the hours required for operating or training in the R-44 was suggested in the context of moving from the R-22 model to the R-44.

One commenter stated that since the adoption of SFAR No. 73 in 1995, the Robinson Helicopter Company has made modifications that affect the R-22 and R-44 fleets. These modifications include a mandatory RPM governor, higher performance engines, hydraulic-

assisted controls, new aircraft placards, and changes to the limitations and normal procedures in the aircraft flight manual. Additionally, this commenter noted that the FAA has updated the Rotorcraft Flying Handbook, FAA-H8083-21, and modified the Practical Test Standards for the helicopter rating practical tests to provide emphasis on the hazards associated with low G flight, mast bumping, and low RPM. This commenter suggested that the FAA establish a Flight Standardization Board (FSB) to evaluate the current situation with these helicopters and make any needed amendments to the SFAR prior to adopting a rule without an expiration date.

The FAA notes that none of the commenters provided any detailed information or data about the current fleet of R-22 and R-44 helicopters. Similarly, none of the commenters analyzed current accident data for the R-22 and R-44 helicopters or provided a safety analysis to support their conclusions.

In the FAA's view, the safety importance of SFAR 73 clearly has been demonstrated. The accident rate for the Robinson R-44 and R-22 helicopter has declined precipitously since SFAR No. 73 was established in 1995. Looking at recent data, the accident records and contributing causes of nearly 100 Robinson R-22 accidents that occurred between 2005 and 2008 show that none of the accidents involved mast bumping, low rotor RPM, or low "G" hazards. The additional training required by SFAR No. 73 addresses these specific hazards. Based on the record of effectiveness, even if not solely attributed to SFAR 73, the FAA has determined that reliance on the general awareness in the helicopter community of the operating issues of the R-22 and R-44 helicopters is not consistent with safety.

Nor, does the FAA believe that we need to conduct another FSB for the R-22 and R-44 helicopters before adopting SFAR No. 73 as proposed. In the case of the R-22, the FAA has conducted two FSBs. At the conclusion of the second

FSB in the early 1990s, we established the additional training and qualification requirements contained in SFAR No. 73. While modifications made by the Robinson Helicopter Company to the R-22 and R-44 fleets may have improved the R-22 and R-44 helicopters, the FAA believes the additional training and qualification requirements in SFAR No. 73 contributed significantly to reducing the number and types of accidents traditionally associated with these helicopters.

The FAA continues to analyze the number of Robinson R-22 and R-44 accidents in comparison to other makes and models of helicopters. Using the most recent data (2007), Table 1 shows the activity level of the pertinent models of helicopters and number of accidents involving Robinson R-22 and R-44 helicopters in comparison to Schweizer 269 and Enstrom 280 helicopters. These types of helicopters are generally used in the training environment for initial pilot certification.

TABLE 1—2007 GENERAL AVIATION AND AIR TAXI SURVEY BY POPULATION SIZE, ACTIVE HELICOPTERS, TOTAL FLIGHT HOURS, AND AVERAGE FLIGHT HOURS

Helicopter make/model	Aircraft population size	Est. number active	Percent standard error	Est. percent active	Percent standard error	Est. total hours flown	Percent standard error	Est. average hours	Percent standard error
Enstrom 280	143	108	0.8	75.4	0.8	6,473	12.2	60.0	9.2
Schweizer 269	403	366	0.4	90.7	0.4	147,936	6.0	404.7	5.4
Total ..	.....	474	.....	.....	.....	154,409	.....	325.8	.....
R-22	948	863	0.5	91.1	0.5	330,883	5.3	383.2	4.8
R-44	1,022	999	0.2	97.8	0.2	184,624	5.0	184.8	4.9
Total ..	.....	1,862	.....	.....	.....	515,507	.....	276.9	.....

ENSTROM 280 AND SCHWEIZER 269 ACCIDENT RATE IN COMPARISON TO THE ROBINSON R-22 AND R-44 ACCIDENT RATE

Helicopter type	Number of accidents *	Accident rate per 100,000 hours of flight time flown
Enstrom 280 and Schweizer 269	18	11.66
Robinson R-22 and R-44	54	10.48

* Accident data from the U.S. National Transportation Safety Board.

The data show the accident rate for the Robinson R-22 and R-44 per 100,000 hours of flight is 10.48. While the accident rate is slightly lower than the accident rate of 11.66 per 100,000 hours of flight for similar training helicopters, the roughly comparable accident rate has been achieved in the context of the special training requirements of SFAR 73. (If the comparison included only the R-22,

which sees more use as a training aircraft, the accident rate for the R-22 would be higher than the rate for the Enstrom 280 and the Schweizer 269.) We conclude that the additional training and qualification requirements in SFAR No. 73 have been a major factor leading to an improved safety record for the Robinson R-22 and R-44 helicopter in the training environment.

Table 2 shows the activity level of the pertinent models of helicopters and contains data comparing the accident rate in the Robinson R-22 and R-44 helicopter to the accident rate of helicopters which have a similar teetering or semi-rigid rotor system (Bell 206, Bell 47G, and Hiller UH-12E) as the Robinson R-22 and R-44 helicopter.

TABLE 2—2007 GENERAL AVIATION AND AIR TAXI SURVEY BY POPULATION SIZE, ACTIVE HELICOPTERS, TOTAL FLIGHT HOURS, AND AVERAGE FLIGHT HOURS

Helicopter make/model*	Aircraft population size	Est. number active	Percent standard error	Est. percent active	Percent standard error	Est. total hours flown	Percent standard error	Est. average hours	Percent standard error
BH-206	1,650	1,448	0.5	87.7	0.5	589,158	3.1	407.0	2.7
BH-47G ...	615	322	1.4	52.4	1.4	41,167	13.0	127.7	6.8
UH-12E	253	119	1.6	47.1	1.6	28,131	11.4	236.1	5.4
Total ..	.....	1,889	.....	.....	.....	658,456	.....	348.6	.....
R-22	948	863	0.5	91.1	0.5	330,883	5.3	383.2	4.8
-44	1,022	999	0.2	97.8	0.2	184,624	5.0	184.8	4.9
Total ..	.....	1,862	.....	.....	.....	515,507	.....	276.9	.....

BELL AND HILLER ACCIDENT RATE IN COMPARISON TO THE ROBINSON R-22 AND R-44 ACCIDENT RATE

Helicopter type	Number of accidents **	Accident rate per 100,000 hours of flight time flown
Bell and Hiller Helicopters	49	7.44
Robinson R-22 and R-44	54	10.48

* Bell Helicopter 206=BH-206; Bell Helicopter 47G=BH-47G; Hiller UH-12E=UH-12E; Robinson R-22=R-22; and Robinson R-44=R-44.

** Accident data from the U.S. National Transportation Safety Board.

The data in Table 2 show the accident rate per 100,000 hours of flight for the Robinson R-22 and R-44 is higher than the accident rate of the Bell 206, Bell 47G, and Hiller UH-12E, 10.48 compared to 7.44, respectively. While the helicopters being compared are different in other ways, nothing in the data suggests a reason to reduce the training requirements of SFAR 73.

The FAA is willing to work with the helicopter industry, owners of Robinson R-22 and R-44 helicopters, and the Robinson Helicopter Company to evaluate any data, information, or safety analyses provided that might lead to future modification of SFAR No. 73. Adopting the rule without a specific expiration date is not a hindrance to modifying the rule based on updated data and analysis. At this time, however, the FAA does not believe an adequate safety rationale has been developed to warrant specific modifications to the current requirements.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. We have determined that there is no current or new requirement for information collection associated with this amendment.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these regulations.

IV. Regulatory Evaluation, Regulatory Flexibility Determination, International Trade Impact Analysis, and Unfunded Mandates Assessment

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) requires agencies to prepare a written assessment of the costs, benefits,

and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or Tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this final rule. We suggest readers seeking greater detail read the full regulatory evaluation, a copy of which we have placed in the docket for this rulemaking.

In conducting these analyses, FAA has determined that this final rule: (1) Has benefits that justify its costs, (2) is not an economically "significant regulatory action" as defined in section 3(f) of Executive Order 12866, (3) is not "significant" as defined in DOT's Regulatory Policies and Procedures; (4) will not have a significant economic impact on a substantial number of small entities; (5) will not create unnecessary obstacles to the foreign commerce of the United States; and (6) will not impose an unfunded mandate on State, local, or Tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

Total Benefits and Costs of This Rule

The final rule will require those who receive or provide instruction in a Robinson R-22 or R-44 helicopter to incur additional costs related to special training and experience requirements. These requirements will impose costs of

approximately \$9.8 million (present value, \$6.9 million) over 10 years in 2008 dollars. The potential safety benefits from the rule will be a reduction in the number of fatal accidents that occur in Robinson helicopters associated with low "G" maneuvers that may result in main rotor/airframe contact. The reduction in the number of accidents would be due to the increased level of safety due to specific flight training and awareness training requirements for all individuals operating Robinson R-22 and R-44 aircraft. SFAR 73 is estimated to avert 22 fatalities associated with low "G" maneuvers, and the expected corresponding safety benefits will be approximately \$129 million (present value, \$90.6 million) over ten years, in 2008 dollars. Since benefits exceed costs, the FAA concludes that this rule is cost-beneficial.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the Act requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The Act covers a wide range of small entities, including small businesses, not-for-profit organizations and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis (RFA) as described in the Act.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the 1980 Act provides that the head of the agency may so certify and an RFA is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

This final rule will indefinitely extend SFAR 73, initially published on March 1, 1995, and extended three times since. The SFAR is limited to experience and training requirements to perform pilot-in-command and certified flight instructor duties, thereby impacting individuals rather than

entities. Therefore, as the Acting FAA Administrator, I certify that this final rule will not have a significant economic impact on a substantial number of small entities.

International Trade Analysis

The Trade Agreement Act of 1979 (Pub. L. 96-39), as amended by the Uruguay Round Agreements Act (Pub. L. 103-463), prohibits Federal agencies from engaging in any standards or related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered unnecessary obstacles to the foreign commerce of the United States, so long as the standards have a legitimate domestic objective, such as the protection of safety, and do not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and where appropriate, that they be the basis for U.S. standards. The FAA notes the purpose is to ensure the safety of the American public, and has assessed the effects of this rule to ensure it does not exclude imports that meet this objective. As a result, this final rule is not considered as creating an unnecessary obstacle to foreign commerce.

Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by State, local, and Tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of \$136.1 million in lieu of \$100 million.

This final rule does not contain such a mandate. The requirements of Title II do not apply.

Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action will not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, does not have federalism implications.

Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 6 and involves no extraordinary circumstances.

Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a "significant regulatory action" under the executive order because it is not a "significant regulatory action" under Executive Order 12866, and DOT's Regulatory Policies and Procedures, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

Availability of Rulemaking Documents

You can get an electronic copy of rulemaking documents using the Internet by—

1. Searching the Federal eRulemaking Portal (<http://www.regulations.gov>);
2. Visiting the FAA's Regulations and Policies Web page at http://www.faa.gov/regulations_policies/; or
3. Accessing the Government Printing Office's Web page at <http://www.gpoaccess.gov/fr/index.html>.

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267-9680. Make sure to identify the amendment number or docket number of this rulemaking.

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act statement in the *Federal Register* published on April 11, 2000 (Volume 65, Number 70; Pages 19477-78) or you may visit <http://DocketsInfo.dot.gov>.

Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with

small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. If you are a small entity and you have a question regarding this document, you may contact your local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. You can find out more about SBREFA on the Internet at http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.

List of Subjects in 14 CFR Part 61

Aircraft, Aircraft pilots, Airmen, Airplanes, Air safety, Air transportation, Aviation safety, Balloons, Helicopters, Rotorcraft, Students.

The Amendment

■ In consideration of the foregoing, the Federal Aviation Administration amends Chapter I of Title 14, Code of Federal Regulations as follows:

PART 61—CERTIFICATION: PILOTS, FLIGHT INSTRUCTORS, AND GROUND INSTRUCTORS

■ 1. The authority citation for part 61 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701–44703, 44707, 44709–44711, 45102–45103, 45301–45302.

■ 2. Revise section 3 of SFAR No. 73 to read as follows:

Special Federal Aviation Regulation No. 73—Robinson R-22/R-44 Special Training and Experience Requirements

* * * * *

■ 3. *Expiration date.* This SFAR No. 73 shall remain in effect until it is revised or rescinded.

Issued in Washington, DC, on May 26, 2009.

Lynne A. Osmus,

Acting Administrator.

[FR Doc. E9-12532 Filed 5-28-09; 8:45 am]

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