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TITLE 14 - AERONAUTICS AND SPACE

CHAPTER I - FEDERAL AVIATION AGENCY

[Regulatory Docket No. 1289; Amendment 61-3]

PART 61 - CERTIFICATION: PILOTS AND FLIGHT INSTRUCTORS [New]

Standards and Issuance Requirements for
Helicopter and Gyroplane Class Ratings

The purpose of this amendment is to establish standards and issue requirements for helicopter and gyroplane class ratings, and to require knowledge of the use of radio aids to VFR navigation for a private pilot certificate with a rotorcraft category rating. This action was published as a notice of proposed rule making (27 F.R. 6677) and circulated as Civil Air Regulations Draft Release No. 62-33, dated July 9, 1962. The references in the draft release were to Part 20 of the Civil Air Regulations, but it contained the statement that the format of any final rules adopted pursuant to the proposal would be subject to such changes as might be necessary for recodification under the Agency's recodification program announced in Draft Release No. 61-25. These sections have been recodified and the substance thereof incorporated into Part 61 [New] of the Federal Aviation Regulations.

Civil Air Regulations Amendment 20-16, which became effective July 12, 1962, amended Part 20 by adding two class ratings - helicopter and gyroplane - to the rotorcraft category. However, the current aeronautical skill standards for rotorcraft category ratings were designed primarily for helicopters and are not satisfactory for gyroplanes. Therefore, in order to provide new skill standards for gyroplanes, it was proposed

in Draft Release 62-33 to make the current skill standards applicable to helicopters only, and to add new skill standards for gyroplanes. It was further proposed in the draft release to amend the aeronautical knowledge requirements for the issuance of a private pilot certificate with a rotorcraft category rating to require knowledge of the use of radio aids to VFR navigation.

The majority of the comments received in response to the draft release indicate general agreement with the proposals. Only two comments registered substantial opposition to the proposed rules. One of these comments suggested that the proposed gyroplane standards were premature and should be deferred until more gyroplanes have been developed; the other comment suggested that the skill requirements for helicopter class ratings should be increased over those presently in effect.

As stated in the preamble to the draft release, the present skill standards for the rotorcraft category rating have been found to be satisfactory when applied to helicopters only, since they were adopted primarily for the operation of these aircraft. These standards have been successfully applied in the past and there appears to be no reason to revise the substance of the rules at this time. The proposed skill standards for gyroplanes were developed as a result of a careful study of the Umbaugh Model 18 gyroplane which was recently certificated by the Agency. Information available to the Agency indicates that this model should be typical of other gyroplanes

that may be certificated in the future. In any event, however, the skill standards that were proposed are considered to be sufficiently broad and flexible to accommodate future developments in this area. Moreover, the Agency continuously monitors and updates the regulations. If, in the future, further action is necessary, it will be taken in accordance with the Agency's policy of instituting timely rulemaking proceedings whenever necessary to accommodate advances in the aviation industry.

One other comment received in response to the draft release questioned the suitability of "high altitude takeoff" as an item for inclusion in the flight instructor flight test for gyroplanes. Upon further consideration, this item was deleted from the flight test because it has been determined that it is impractical to perform under many circumstances.

In addition to the changes made in response to comments, three other changes have been made to clarify the proposed rules. First, the requirement for a demonstration of two-way radio communication has been deleted from Phase IV of the practical test contained in § 61.121, since it is covered elsewhere in the test. Secondly, the requirement for a 720° steep turn about a point, for both the private and commercial gyroplane rating tests, has been changed from "45° at steepest point", to "not more than 45° at steepest point". This change has been made in recognition of the fact that a 45° bank might not be possible in all cases due to the wind or other variable factors. Lastly, the phrase "and emergency procedures" in § 61.83(b) has been made applicable to the rotorcraft category rating.

Although a written demonstration of knowledge of emergency procedures was not specifically included in the rule as proposed in the draft release, a demonstration of proficiency of emergency procedures was proposed as a part of the "basic technique" phase of both the private pilot helicopter and gyroplane practical tests. Furthermore, this item has been included in the past in the written test required for a private pilot certificate (rotorcraft) on the basis that a knowledge of emergency procedures is necessary in order to safely operate a rotorcraft. Therefore, for clarity, this item has been specifically included in the aeronautical knowledge required for a rotorcraft rating in § 61.83(b). Since these changes are clarifying in nature and impose no additional burden on any person, notice and public procedure thereon are unnecessary.

Except as noted above, interested persons have been afforded an opportunity to participate in the making of this amendment and due consideration has been given to all relevant matter presented.

In consideration of the foregoing, Part 61 of the Federal Aviation Regulations (14 CFR Part 61) is hereby amended as follows, effective May 17, 1963 .

This amendment is made under the authority of sections 313(a), 601, and 602 of the Federal Aviation Act of 1958 (72 Stat. 752, 775, 776; 49 U.S.C. 1354, 1421, 1422).

1. By amending § 61.83(b) to read:

61.83 Aeronautical knowledge.

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(b) Practical aspects of cross-country flying including, for an airplane or rotorcraft rating, flight planning, map reading, pilotage, the use of radio aids to VFR navigation, radio communication procedures, and emergency procedures;

2. By amending § 61.91 to read:

61.91 Rotorcraft rating: aeronautical skill.

(a) An applicant for a private pilot certificate (rotorcraft) must pass the applicable practical test on the procedures and maneuvers listed in paragraph (b) or (c) of this section. The test for a helicopter class rating is given in two phases; basic techniques and precision maneuvers. Thetest for a gyroplane class rating is given in three phases; oral operational test, basic techniques, and cross-country.

(b) The applicant for a helicopter class rating must perform the following procedures and maneuvers competently:

(1) Phase I - basic techniques:

(i) Preflight check and oral equipment test.

(ii) Preflight operations.

(iii) Taxiing (if helicopter equipped to taxi on the surface).

(iv) Normal and crosswind takeoffs and landings.

(v) High altitude takeoffs and roll-on landings.

(vi) Climbs and descents.

(vii) Emergencies, including autorotative approaches.

(2) Phase II - precision maneuvers:

(i) Hovering - upwind, downwind, and crosswind.

(ii) Hovering turns - 180° and 360°, right and left.

(iii) Turns with medium banks.

(iv) S turns.

(v) Pattern flying with constant heading.

(vi) Rapid flying decelerations (quick stops).

(c) The applicant for a gyroplane class rating must perform the following procedures and maneuvers competently:

(1) Phase I - oral operational test:

(i) Gyroplane registration, airworthiness, and equipment documents.

(ii) Gyroplane logbooks and airworthiness inspection records.

(iii) Gyroplane performance, range, and operation (from Gyroplane Flight Manual).

(iv) Gyroplane loading, including fuel, oil, and baggage capacities.

(v) Gyroplane line check.

(vi) Use of radio for voice communication (may be simulated when necessary).

(2) Phase II - basic techniques:

(i) Preflight operations.

(ii) Taxiing or sailing and docking.

(iii) Normal and crosswind takeoffs and landings.

(iv) Climbs, level flight, and descents at normal speeds and at minimum level flight speeds.

(v) Entry and recovery from high rates of descent with and without power (recovery to be completed not lower than 300 feet above the surface).

(vi) 720° steep turns about a point (bank not more than 45° at steepest point).

(vii) Roll-on landing and full flare landing.

(viii) Short field takeoff, and power approach and landing.

(ix) Soft field takeoff and landing (jump takeoff, if the gyroplane has this capability).

(x) Emergency operation of gyroplane equipment.

(3) Phase III - cross-country flight:

(i) Cross-country flight planning.

(ii) Cross-country flying.

(iii) Cross-country emergencies (lost, weather, overheating engine, power failure, etc.).

(iv) Use of radio aids to VFR navigation.

3. By amending § 61.121 to read:

61.121 Rotorcraft rating: aeronautical skill.

(a) An applicant for a commercial pilot certificate (rotorcraft) must pass the applicable practical test on the procedures and maneuvers listed in paragraph (b) or (c) of this section. The test for a helicopter class rating is given in two phases; basic techniques and precision maneuvers. The test for a gyroplane class rating is given in four phases; oral operational test, basic techniques, precision maneuvers, and cross-country.

(b) The applicant for a helicopter class rating must perform the following procedures and maneuvers competently:

(1) Phase I - basic techniques:

(i) Preflight check and oral equipment test.

(ii) Preflight operations.

(iii) Taxiing (if helicopter equipped to taxi on the surface).

(iv) Normal takeoffs and landings.

(v) Crosswind takeoffs and landings.

(vi) High altitude takeoffs and roll-on landings.

(vii) Climbs and descents.

(viii) Emergencies, including autorotative approaches (landing optional, as appropriate).

(2) Phase II - precision maneuvers:

(i) Hovering upwind, downwind, and crosswind.

(ii) Pattern flying with constant and with changing headings.

(iii) Hovering turns - 180° and 360°, right and left.

(iv) S turns.

(v) Turns with medium banks.

(vi) Rapid decelerations (quick stops).

(c) The applicant for a gyroplane class rating must perform the following procedures and maneuvers competently:

(1) Phase I - oral operational test:

(i) Gyroplane registration, airworthiness, and equipment documents.

(ii) Gyroplane logbooks and airworthiness inspection records.

(iii) Gyroplane performance, range, and operation (from Gyroplane Flight Manual).

(iv) Gyroplane loading, including fuel, oil, and baggage capacities.

(v) Gyroplane line check.

(vi) Use of radio for voice communication (may be simulated when necessary).

(2) Phase II - basic techniques:

(i) Preflight operations.

(ii) Taxiing or sailing and docking.

(iii) At least three takeoffs with three accuracy landings beyond and within 100 feet of a mark, including:

(a) Crosswind takeoff and landing.

(b) Short field takeoff and power approach and landing.

(c) Soft field takeoff and landing (jump takeoff, if the gyroplane has this capability).

(iv) Roll-on landing and full flare landing.

(v) Airport traffic patterns.

(vi) Forced landings (single-engine only) and simulated emergencies.

(vii) Emergency operation of gyroplane equipment.

(3) Phase III - precision maneuvers:

(i) Gliding spirals about a point on the ground.

(ii) One right and one left 720° steep power turn (bank not more than 45° at steepest point).

(iii) Entry and recovery from high rates of descent with and without power (recovery to be completed not lower than 300 feet above the surface).

(iv) Maneuvering at minimum level flight airspeed.

(4) Phase IV - cross-country flight:

(i) Cross-country flight planning.

(ii) Cross-country flying.

(iii) Cross-country emergencies (lost, weather, overheating engine, power failure, etc.).

(iv) Use of radio aids to VFR navigation.

4. By revising subparagraph (3) of § 61.171(d) to read:

61.171 Flight instructor certificate.

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(d) Flight tests. * * *

(3) Flight test, rotorcraft (helicopter class rating):

(i) Preflight check and oral equipment test.

(ii) Preflight operations.

(iii) Taxiing (if helicopter equipped to taxi on the surface).

(iv) Normal takeoffs and landings.

(v) Crosswind takeoffs and landings.

(vi) High altitude takeoffs and roll-on landings.

(vii) Climbs and descents.

(viii) Hovering upwind, crosswind, and downwind.

(ix) Hovering 360° turns.

(x) Pattern flying with constant and with changing headings.

(xi) S turns.

(xii) Rapid decelerations.

(xiii) Autorotative landings.

(xiv) Emergency operation of helicopter equipment.

5. By redesignating subparagraphs (4) and (5) of § 61.171(d) as subparagraphs (5) and (6), respectively, and by adding a new subparagraph (4) to read:

61.171 Flight instructor certificate.

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(d) Flight tests. * * *

(4) Flight test, rotorcraft (gyroplane class rating):

(i) Preflight check and oral equipment test.

(ii) Preflight operations.

(iii) Taxiing or sailing and docking.

(iv) Normal takeoff and landing.

(v) Crosswind takeoff and landing.

(vi) Roll-on landing and full flare landing.

(vii) Short field takeoff and power approach and landing.

(viii) Soft field takeoff and landing (jump takeoff, if the gyroplane has this capability).

(ix) Forced landings (single-engine only) and simulated emergencies.

(x) 720° power turns (45° bank).

(xi) Turns about a point (45° bank at steepest point).

(xii) Entry and recovery from high rates of descent with and without power (recovery to be completed not lower than 300 feet above the surface).

(xiii) Maneuvering at minimum level flight airspeed.

(xiv) Airport traffic patterns.

(xv) Use of radio for voice communication-traffic control procedures.

(xvi) Emergency operation of gyroplane equipment.

Administrator

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