
**GACAR PART 100 – OPERATIONS OF MANNED POWERED-LIFT AND VERTICAL
 TAKEOFF & LANDING (VTOL) AIRCRAFT**

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SUBPART A - GENERAL

§ 100.1 Applicability.

(a) This part prescribes:

- (1) Certain requirements that may be satisfied in lieu of the requirements of GACAR Part 61 for persons seeking a powered-lift pilot certificate and rating, the conditions under which those certificates and ratings are necessary, and the privileges and limitations of those certificates and ratings;
- (2) The general operating rules applicable to all persons operating manned powered-lift, including those an operator must meet to conduct manned powered-lift operations under GACAR Parts 91 and 135;
- (3) The requirements for persons conducting training, testing, and checking utilizing a powered-lift or flight simulation training device (FSTD) representing a powered-lift under GACAR Parts 135, 141, and 142; and
- (4) The requirements for persons conducting maintenance, preventative maintenance, rebuilds, alterations, or inspections on powered-lift pursuant to GACAR Part 43.

(b) In addition to the requirements in this part, the following parts continue to apply to those persons described in paragraph (a) of this section unless otherwise specified in this part: GACAR Parts 43, 60, 61, 91, 135, 141, and 142.

(c) This part is limited in its application to manned powered-lift and vertical takeoff and landing (VTOL) aircraft with a maximum takeoff mass of 5,700 kg or less, and with a passenger seating configuration, excluding pilot seats, of 9 seats or less. These aircraft are referred to as “small” manned powered-lift (VTOL) aircraft and will be type certificated under GACAR Part 21 to airworthiness criteria established for “special class” aircraft as prescribed in GACAR § 21.41(b). These aircraft are neither transport category aircraft nor normal category aircraft, rather they are “special class” aircraft. Operation of all other manned powered-lift and vertical takeoff and landing (VTOL) aircraft are prohibited under this part.

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(d) This part is applicable to powered-lift aircraft and other innovative vertical takeoff and landing (VTOL) capable aircraft. Powered-lift and innovative VTOL capable aircraft are differentiated from helicopters and other traditional rotorcraft by the number of rotors or the presence of a wing-borne flight mode. All references to powered-lift in this part also apply to other innovative VTOL capable aircraft, to the extent compatible with their configuration (including those lacking wing-borne flight mode), unless otherwise specified.

§ 100.3 Definitions.

(a) For the purpose of this part:

Aviation safety inspector means a pilot employed by the GACA to conduct operations of a powered-lift for the purpose of establishing a type rating in that particular powered-lift.

CAA test pilot means a pilot employed by the GACA, or otherwise authorized by the President to act on behalf of the GACA, to conduct operations of a powered-lift for the purpose of examination or inspection of a type design for which an application for type certification or amended type certificate has been submitted under GACAR Part 21.

Fuel means liquid fuel and/or electrical energy provided by batteries or other electrical energy storage device.

Instructor pilot means a pilot employed or used by a manufacturer of a powered-lift to conduct operations of the powered-lift for the purpose of developing a proposed training curriculum and providing crew training.

Manufacturer means any person who holds, or is an applicant for, a type or production certificate for an aircraft.

Manned means at the aircraft is piloted by at least one pilot on board.

Test pilot means a pilot employed or used by a manufacturer of a powered-lift to conduct operations of the powered-lift for the purpose of research and development and showing compliance with the GACARs.

Vertical-lift flight mode means a mode of flight where a powered-lift:

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- (1) Is in a configuration that allows vertical takeoff, vertical landing, and low-speed flight; and
- (2) Depends principally on engine-driven lift devices or engine thrust for lift.

Wing-borne flight mode means a mode of flight where a powered-lift is not operating in the vertical-lift flight mode as defined and depends exclusively or partially on nonrotating airfoil(s) for lift during takeoff, landing, or horizontal flight.

(b) Additional defined terms applicable to this part can be found in GACAR Part 1.

§ 100.5 Qualification of powered-lift FSTDs.

(a) For flight simulation training devices (FSTDs) representing powered-lift for which qualification standards have not been issued under GACAR Part 60, the applicable requirements will be the portions of the flight simulation training device qualification performance standards contained in appendices A through D to 14 CFR part 60 that are found by the President to be appropriate for the powered-lift and applicable to a specific type design, or such FSTD qualification criteria as the President may find provide an equivalent level of safety to those FSTD qualification standards.

(b) [Reserved].

§ 100.7 Exceptions for Powered-Lift Aircraft Prohibited from Flight at Night.

Notwithstanding the requirements for night cross-country and night aeronautical experience requirements prescribed in GACAR § 100.233(a)(2) and GACAR § 100.237(a), pilots who are unable to meet these requirements, because of powered-lift aircraft that are prohibited from flight at night, may be issued with pilot certificate with a powered-lift category and type rating with a “Day VFR Only” limitation. If a pilot chooses to have the “Day VFR Only” limitation removed, they must comply with all applicable night requirements.

§ 100.9 Incorporation by reference.

Certain material is incorporated by reference into this part. (a) RTCA, Inc., 1150 18th St. NW, Suite 910, Washington, DC 20036; phone: (202) 833-9339; website: www.rtca.org/products.

- (1) Section 2 of RTCA DO-309, Minimum Operational Performance Standards (MOPS) for

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Helicopter Terrain Awareness and Warning System (HTAWS) Airborne Equipment (Mar. 13, 2008); into GACAR §§ 100.302; 100.306.

(2) [Reserved].

(b) FAA TSO-C194, Technical Standard Order: Helicopter Terrain Awareness and Warning System, effective Dec. 17, 2008; into GACAR §§ 100.302; 100.306.

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§ 100.201 Alternate definition of cross-country time.

Notwithstanding the cross-country time definitions in GACAR § 1.1, a person may log flight time in a powered-lift as cross-country time provided the time was acquired during a flight—

- (a) That includes a point of landing that was at least a straight-line distance of more than 25 nautical miles from the original point of departure; and
- (b) That involves the use of dead reckoning, pilotage, electronic navigation aids, radio aids, or other navigation systems to navigate to the landing point.

§ 100.203 Alternate qualification requirements for certain flight instructors.

(a) *Instructor pilots at a manufacturer.* In addition to the provisions specified in GACAR § 61.199(d), a flight instructor certificate issued under GACAR Part 61 is not necessary to conduct flight training if the training is given by an instructor pilot in a powered-lift at the manufacturer, provided the training is conducted in accordance with the manufacturer's training curriculum and is given to either—

- (1) A test pilot;
- (2) A person authorized by the President to serve as an initial check pilot, chief instructor, assistant chief instructor, or training center evaluator for the purpose of initiating training in a powered-lift under an approved training program under GACAR Part 135, 141, or 142, as appropriate; or
- (3) A CAA test pilot or aviation safety inspector.

(b) [Reserved].

§ 100.205 Reserved.

§ 100.207 Alternate requirement for practical tests and training in a powered-lift.

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(a) *Required equipment for the practical test.* Notwithstanding the equipment requirement in GACAR § 61.27(c)(2)(i)(B) and the limitation specified in GACAR § 61.27(c)(2)(ii), an applicant for a certificate or rating may use a powered-lift that is precluded from performing all of the tasks required for the practical test without receiving a limitation on the applicant's certificate or rating, as appropriate.

(b) *Waiver authority for a practical test conducted in a powered-lift.* An Examiner who conducts a practical test in a powered-lift may waive any task for which the President has provided waiver authority.

(c) *Flight training on waived tasks.* Notwithstanding the requirements for training including the areas of operation listed in Appendix A or C of GACAR Part 141, as applicable, an applicant seeking a private pilot certificate or commercial pilot certificate with a powered-lift category rating concurrently with a powered-lift type rating is not required to receive and log flight training on a task specified in an area of operation if the powered-lift is not capable of performing the task, provided the President has issued waiver authority for that task in accordance with paragraph (b) of this section.

§ 100.209 Additional qualification requirements for certain pilots serving as second-in-command.

(a) A person who obtains at least a private pilot certificate with a powered-lift category rating by satisfactorily completing the practical test in a powered-lift that is precluded from performing each task required by GACAR § 61.27(b)(1)(i) may not serve as second-in-command of a powered-lift that is capable of performing the tasks that were waived on the person's practical test until the person has—

- (1) Received and logged ground and flight training from an authorized instructor on the specific tasks that were waived on the person's practical test; and
- (2) Received a logbook or training record endorsement from an authorized instructor certifying the person has satisfactorily demonstrated proficiency of those tasks.

(b) The training and endorsement required by paragraph (a) of this section are not required if, prior to serving as second-in-command, a person meets one of the following requirements—

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(1) Successfully completes the practical test for a powered-lift type rating, and the practical test includes each task required by GACAR § 61.27(b)(1)(i); or

(2) Has received ground and flight training under an approved training program and has satisfactorily completed a competency check under GACAR § 135.349 in a powered-lift, and the approved training and checking include each task that was previously waived in accordance with GACAR § 100.207(b).

(c) An applicant receiving flight training under GACAR § 100.221, GACAR § 100.223, GACAR § 100.229, or GACAR § 100.231 may serve as second-in-command in a powered-lift type certificated for more than one required pilot flight crewmember without meeting the requirements of GACAR § 61.19(a)(1), (a)(2), and (b)(2).

§ 100.211 Alternate eligibility requirements for a person seeking a powered-lift type rating.

(a) *General applicability.* The requirements specified in paragraphs (b) and (c) of this section apply only to persons seeking a type rating in a powered-lift that is capable of performing instrument maneuvers and procedures.

(b) *Obtaining an initial powered-lift type rating without concurrently obtaining the instrument-powered-lift rating.*

(1) Notwithstanding the requirement to hold or concurrently obtain an appropriate instrument rating in GACAR § 61.83(d)(1), a person who applies for an initial powered-lift type rating to be completed concurrently with a powered-lift category rating may apply for the type rating without holding or concurrently obtaining a powered-lift instrument rating, but the type rating will be limited to “visual flight rules (VFR) only.”

(2) Notwithstanding the requirement in GACAR § 61.83(d)(4), a person who applies for a powered-lift type rating pursuant to paragraph (b)(1) of this section is not required to perform the type rating practical test in actual or simulated instrument conditions.

(3) Except as specified in paragraph (b)(6) of this section, a person who obtains a powered-lift type rating with a “VFR only” limitation pursuant to paragraph (b)(1) of this section must remove the limitation in accordance with paragraph (b)(4) of this section within 2 calendar months from the month in which the person passes the type rating practical test.

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(4) The “VFR only” limitation may be removed after the person—

(i) Passes an instrument rating practical test in a powered-lift in actual or simulated instrument conditions; and

(ii) Passes a practical test in the powered-lift type for which the “VFR only” limitation applies on the appropriate areas of operation listed in GACAR § 61.179(e)(3) that consist of performing instrument maneuvers and procedures in actual or simulated instrument conditions.

(5) Except as specified in paragraph (b)(6) of this section, if a person who obtains a powered-lift type rating with a “VFR only” limitation pursuant to paragraph (b)(1) of this section does not remove the limitation within 2 calendar months from the month in which the person completed the type rating practical test, the powered-lift type rating for which the “VFR only” limitation applies will become invalid for use until the person removes the limitation in accordance with paragraph (b)(4) of this section.

(6) A person holding a private pilot certificate is not required to remove the “VFR only” limitation.

(c) *Obtaining an additional powered-lift type rating with a “VFR Only” limitation.*

(1) Notwithstanding the requirement to hold or concurrently obtain an appropriate instrument rating in GACAR § 61.83(d)(1), a person holding a private pilot certificate may apply for a powered-lift type rating for a powered-lift that is not a large aircraft or turbojet-powered without holding or concurrently obtaining a powered-lift instrument rating, but the type rating will be limited to “VFR only.”

(2) Notwithstanding the requirement in GACAR § 61.83(d)(4), a person who applies for a powered-lift type rating pursuant to paragraph (c)(1) of this section is not required to perform the type rating practical test in actual or simulated instrument conditions.

(3) A person who obtains a powered-lift type rating with a “VFR only” limitation pursuant to paragraph (c)(1) of this section may remove the “VFR only” limitation for that powered-lift type as specified in paragraph (b)(4) of this section.

(d) *Concurrent practical tests for removal of “VFR only” limitation.* If a task required for the

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practical test specified in paragraph (b)(4)(i) of this section overlaps with a task required for the practical test specified in paragraph (b)(4)(ii) of this section, a person may perform the task a single time provided the task is performed to the highest standard required for the task.

§ 100.213 Alternate endorsement requirements for certain persons seeking a powered-lift rating.

(a) Notwithstanding the requirements in GACAR Part 61 for an authorized instructor to provide endorsements for certificates and ratings, including endorsements for solo flight, the following persons may provide the required logbook or training record endorsements under GACAR Part 61 and this part for a commercial pilot certificate with a powered-lift category rating, an instrument-powered-lift rating, a powered-lift type rating, or a flight instructor certificate with powered-lift ratings—

(1) An instructor pilot, provided the applicant is either—

(i) A test pilot or instructor pilot for the manufacturer seeking type certification of an experimental powered-lift;

(ii) A person authorized by the President to serve as an initial check pilot, chief instructor, assistant chief instructor, or training center evaluator for the purpose of initiating training in a powered-lift under an approved training program under GACAR Part 135, 141, or 142, as appropriate; or

(iii) An CAA test pilot or aviation safety inspector; or

(2) A management official within the manufacturer's organization, provided the applicant is an instructor pilot for the manufacturer of an experimental powered-lift.

(b) The endorsements for training time under this section must include a description of the training given, length of training lesson, and the endorsement provider's signature and identifying information, including certificate number and expiration date, if applicable.

§ 100.215 Applicability of alternate aeronautical experience and logging requirements for commercial pilot certification and a powered-lift instrument rating.

(a) The alternate requirements set forth in GACAR §§ 100.216 through 100.231 apply only to

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persons who hold at least a commercial pilot certificate with the following ratings:

- (1) An airplane category rating with a single-engine or multi-engine class rating and an instrument-airplane rating; or
- (2) A rotorcraft category rating with a helicopter class rating and an instrument-helicopter rating.

(b) If no alternate aeronautical experience or logging requirement is provided under this part, the person must meet the applicable requirements under GACAR Part 61, as appropriate.

§ 100.216 Alternate aeronautical experience: PIC flight time in a powered-lift for a commercial pilot certificate with a powered-lift category rating.

(a) *PIC flight time in a powered-lift.* Notwithstanding the eligibility requirement specified in GACAR § 61.153, an applicant for a commercial pilot certificate with a powered-lift category rating under GACAR § 100.217, GACAR § 100.219, GACAR § 100.221, or GACAR § 100.223 may log 35 hours of PIC flight time in a powered-lift in lieu of the aeronautical experience requirement of Appendix D, paragraph (e)(2)(i) to GACAR Part 61.

(b) *Use of full flight simulators.* In addition to the permitted credit for use of a full flight simulator in Appendix D, paragraph (i) to GACAR Part 61, an applicant for a commercial pilot certificate with a powered-lift category rating may credit a maximum of 15 hours toward the 35 hours of PIC flight time requirement in paragraph (a) of this section, provided—

- (1) The aeronautical experience was obtained performing the duties of PIC in a Level C or higher full flight simulator that represents the powered-lift category; and
- (2) The full flight simulator sessions are conducted in accordance with:
 - (i) For test pilots, instructor pilots, CAA test pilots, or aviation safety inspectors under GACAR § 100.217 or GACAR § 100.219, as applicable, the manufacturer's proposed training curriculum;
 - (ii) For the initial cadre of instructors under GACAR § 100.221, the manufacturer's training curriculum; or

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(iii) For pilots under GACAR § 100.223, an approved training program under GACAR Part 135, 141, or 142.

§ 100.217 Test pilots, CAA test pilots, or aviation safety inspectors: Alternate aeronautical experience and logging requirements for a commercial pilot certificate with a powered-lift category rating.

(a) *General applicability.* An applicant for a commercial pilot certificate with a powered-lift category rating who is a test pilot for the manufacturer of an experimental powered-lift, an CAA test pilot, or an aviation safety inspector may satisfy the alternate aeronautical experience and logging requirements set forth in paragraphs (b) and (c) of this section, provided—

- (1) The flights are conducted in an experimental powered-lift at the manufacturer;
- (2) The applicant is authorized by the President to act as pilot in command (PIC) of the experimental powered-lift.

(b) *Alternate aeronautical experience requirements.* Notwithstanding the eligibility requirement specified in GACAR § 61.153, a test pilot, CAA test pilot, or aviation safety inspector may meet the requirements in paragraphs (b)(1) through (4) of this section in lieu of the aeronautical experience requirements of Appendix D, paragraph (e)(3) and (4) to GACAR Part 61.

(1) A test pilot, CAA test pilot, or aviation safety inspector may receive 20 hours of flight training on the areas of operation listed in Appendix C, Section V, paragraph (d)(5) of GACAR Part 141 from an instructor pilot for the manufacturer of an experimental powered-lift in lieu of an authorized instructor, provided—

- (i) The training is conducted in accordance with the manufacturer's proposed training curriculum in the experimental powered-lift; and
- (ii) The test pilot, CAA test pilot, or aviation safety inspector receives a logbook or training record endorsement from the instructor pilot certifying that the test pilot satisfactorily completed the training curriculum specified in paragraph (b)(1)(i) of this section.

(2) A test pilot, CAA test pilot, or aviation safety inspector may accomplish the practical test

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preparation requirements in Appendix D, paragraph (e)(3)(iv) with a pilot who serves as an instructor pilot for the manufacturer of the experimental powered-lift.

(3) A test pilot, CAA test pilot, or aviation safety inspector may satisfy the aeronautical experience requirement in Appendix D, paragraph (e)(4) to GACAR Part 61 by logging at least 10 hours of solo flight time under an endorsement from an instructor pilot or performing the duties of PIC in an experimental powered-lift with one of the following individuals onboard (which may be credited towards the flight time requirement in Appendix D, paragraph (e)(2) and (e)(2)(ii) to GACAR Part 61 and 100.216(a))—

(i) A test pilot for the manufacturer of the powered-lift who is authorized by the President to act as PIC of the experimental powered-lift; or

(ii) An instructor pilot for the manufacturer of the powered-lift who is authorized by the President to act as PIC of the experimental powered-lift.

(4) A test pilot, CAA test pilot, or aviation safety inspector may satisfy the alternate requirements in GACAR § 100.233 in lieu of the cross-country aeronautical experience requirements specified in Appendix D, paragraph (e)(3)(ii) and (iii) and (e)(4)(i) to GACAR Part 61.

(c) *Alternate logging requirement.* Notwithstanding the logging requirements in GACAR § 61.13(d)(1), an applicant for a commercial pilot certificate with a powered-lift category rating may log pilot-in-command flight time for the purpose of satisfying the aeronautical experience requirements in Appendix D, paragraph (e)(2)(ii) to GACAR Part 61 and GACAR § 100.216(a) for flights when the pilot is the sole manipulator of the controls of an experimental powered-lift for which the pilot is not rated, provided—

(1) The test pilot, CAA test pilot, or aviation safety inspector is acting as PIC of the experimental powered-lift in accordance with a letter of authorization issued by the President; and

(2) The flight is conducted for the purpose of research and development or showing compliance with the GACARs in accordance with the experimental certificate issued to the powered-lift pursuant to GACAR § 21.173.

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§ 100.219 Instructor pilots: Alternate aeronautical experience and logging requirements for a commercial pilot certificate with a powered-lift category rating.

(a) *General applicability.* An applicant for a commercial pilot certificate with a powered-lift category rating who is an instructor pilot for the manufacturer of an experimental powered-lift may satisfy the alternate aeronautical experience and logging requirements set forth in paragraphs (b) and (c) of this section, provided—

- (1) The flights are conducted in an experimental powered-lift at the manufacturer; and
- (2) The applicant is authorized by the President to act as PIC of the experimental powered-lift.

(b) *Alternate aeronautical experience requirements.* Notwithstanding the eligibility requirement specified in GACAR § 61.153, an instructor pilot may meet the requirements in paragraphs (b)(1) through (4) of this section in lieu of the aeronautical experience requirements of Appendix D, paragraph (e)(3) and (4) to GACAR Part 61.

(1) An instructor pilot may meet the requirements of paragraphs (b)(1)(i) and (ii) of this section in lieu of the 20 hours of training with an authorized instructor required by Appendix D, paragraph (e)(3) to GACAR Part 61.

(i) The instructor pilot provided the manufacturer's proposed training curriculum to a test pilot, CAA test pilot, or aviation safety inspector in the experimental powered-lift, which includes 20 hours of training on the areas of operation listed in Appendix C, Section V, paragraph (d)(5) of GACAR Part 141; and

(ii) The instructor pilot receives a logbook or training record endorsement from a management official within the manufacturer's organization certifying that the instructor pilot provided the training specified in paragraph (b)(1)(i) of this section.

(2) An instructor pilot may accomplish the practical test preparation requirements in Appendix D, paragraph (e)(3)(iv) to GACAR Part 61 with a pilot who serves as an instructor pilot for the manufacturer of the experimental powered-lift.

(3) An instructor pilot may satisfy the aeronautical experience requirement in Appendix D, paragraph (e)(4) to GACAR Part 61 by logging at least 10 hours of solo flight time under an endorsement from another instructor pilot or performing the duties of PIC in an experimental

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powered-lift with one of the following individuals onboard (which may be credited towards the flight time requirement in Appendix D, paragraphs (e)(2) to GACAR Part 61 and GACAR § 100.216(a))—

- (i) A test pilot for the manufacturer of the powered-lift who is authorized by the President to act as PIC of the experimental powered-lift;
- (ii) Another instructor pilot for the manufacturer of the powered-lift who is authorized by the President to act as PIC of the experimental powered-lift; or
- (iii) An CAA test pilot or aviation safety inspector.

(4) An instructor pilot may satisfy the alternate requirements in GACAR § 100.233 in lieu of the cross-country aeronautical experience requirements specified in Appendix D, paragraph (e)(3)(ii) and (iii) and (e)(4)(i) to GACAR Part 61.

(c) *Alternate logging requirement.* Notwithstanding the logging requirements in GACAR § 61.13(d)(3), an applicant for a commercial pilot certificate with a powered-lift category rating may log pilot-in-command flight time for the purpose of satisfying the aeronautical experience requirements in Appendix D, paragraph (e)(2)(ii) to GACAR Part 61 and GACAR § 100.216(a) for flights when the pilot is serving as an instructor pilot for the manufacturer of an experimental powered-lift for which the pilot is not rated, provided—

- (1) The pilot is acting as PIC of the experimental powered-lift in accordance with a letter of authorization issued by the President; and
- (2) The flight is conducted for the purpose of crew training in accordance with the experimental certificate issued to the powered-lift pursuant to GACAR §21.173.

§ 100.221 Initial cadre of instructors: Alternate aeronautical experience and logging requirements for a commercial pilot certificate with a powered-lift category rating.

(a) *General applicability.* An applicant for a commercial pilot certificate with a powered-lift category rating may satisfy the alternate aeronautical experience and logging requirements set forth in paragraphs (b) and (c) of this section, provided—

- (1) The applicant is authorized by the President to serve as an initial check pilot, chief

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instructor, assistant chief instructor, or training center evaluator for the purpose of initiating training in a powered-lift under an approved training program under GACAR Part 135, 141, or 142, as appropriate; and

(2) The flights are conducted in type-certificated powered-lift at the manufacturer.

(b) *Alternate aeronautical experience requirements.* Notwithstanding the eligibility requirement specified in GACAR § 61.123(f), an applicant may meet the requirements in paragraphs (b)(1) through (4) of this section in lieu of the aeronautical experience requirements of Appendix D, paragraph (e)(3) and (4) to GACAR Part 61.

(1) An applicant may receive 20 hours of flight training on the areas of operation listed in Appendix C, Section V, paragraph (d)(5) of GACAR Part 141 from an instructor pilot for the manufacturer of the powered-lift in lieu of an authorized instructor, provided—

(i) The training is conducted in accordance with the manufacturer's training curriculum in the powered-lift; and

(ii) The applicant receives a logbook or training record endorsement from the instructor pilot certifying that the test pilot satisfactorily completed the training curriculum specified in paragraph (b)(1)(i) of this section.

(2) An applicant may accomplish the practical test preparation requirements in Appendix D, paragraph (e)(3)(iv) to GACAR Part 61 with a pilot who serves as an instructor pilot for the manufacturer of the powered-lift.

(3) An applicant may satisfy the aeronautical experience requirement in Appendix D, paragraph (e)(4) to GACAR Part 61 by logging at least 10 hours of solo flight time in a powered-lift under an endorsement from an instructor pilot or performing the duties of PIC in a powered-lift with a person onboard who serves as an instructor pilot for the manufacturer of the powered-lift (which may be credited towards the flight time requirement in Appendix D, paragraph (e)(2) and (e)(2)(ii) to GACAR Part 61 and GACAR § 100.216(a)).

(4) An applicant may satisfy the alternate requirements in GACAR § 100.233 in lieu of the cross-country aeronautical experience requirements specified in Appendix D, paragraph (e)(3)(ii) and (iii) and (e)(4)(i) to GACAR Part 61.

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(c) *Alternate logging requirements.* Notwithstanding the logging requirements in GACAR § 61.13(d)(1), an applicant for a commercial pilot certificate with a powered-lift category rating may log up to 25 hours of PIC flight time for the purpose of satisfying the aeronautical experience requirements in Appendix D, paragraph (e)(2)(ii) to GACAR Part 61 and GACAR § 100.216(a) for flights when the pilot is the sole manipulator of the controls of a powered-lift for which the pilot is not rated, provided—

- (1) The applicant is manipulating the controls of the powered-lift with a person onboard who serves as an instructor pilot for the manufacturer;
- (2) The applicant is performing the duties of PIC; and
- (3) The flight is conducted in accordance with the manufacturer's training curriculum for the powered-lift.

§ 100.223 Pilots receiving training under an approved training program: Alternate requirements for a commercial pilot certificate with a powered-lift category rating.

(a) *General applicability.* An applicant for a commercial pilot certificate with a powered-lift category rating may satisfy the alternate requirements set forth in paragraphs (b) through (d) of this section, provided the applicant is receiving training under an approved training program under GACAR Part 135, 141, or 142 for the purpose of obtaining a powered-lift category rating.

(b) *Alternate aeronautical experience requirements.* An applicant may satisfy the alternate requirements in GACAR § 100.233 in lieu of the cross-country aeronautical experience requirements specified in Appendix D, paragraph (e)(3)(ii) and (iii) and (e)(4)(i) to GACAR Part 61.

(c) *Alternate logging requirement.* Notwithstanding the logging requirements in GACAR § 61.13(d)(1), an applicant for a commercial pilot certificate with a powered-lift category rating may log up to 25 hours of PIC time towards the aeronautical experience requirement in GACAR § 100.216(a) for flights when the applicant is the sole manipulator of the controls of a powered-lift for which the pilot is not rated, provided—

- (1) The applicant is manipulating the controls of the powered-lift with an authorized instructor onboard;

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(2) The applicant is performing the duties of PIC; and

(3) The flight is conducted in accordance with an approved training program under GACAR Part 135, 141, or 142.

§ 100.225 Test pilots, CAA test pilots, and Aviation Safety Inspectors: Alternate aeronautical experience and logging requirements for an instrument-powered-lift rating.

(a) *General applicability.* An applicant for an instrument-powered-lift rating who is test pilot for the manufacturer of an experimental powered-lift, an CAA test pilot, or aviation safety inspector may satisfy the alternate aeronautical experience and logging requirements set forth in paragraphs (b) and (c) of this section, provided—

(1) The flights are conducted in an experimental powered-lift at the manufacturer; and

(2) The applicant is authorized by the President to act as PIC of the experimental powered-lift.

(b) *Alternate aeronautical experience requirements.* A test pilot, CAA test pilot, or aviation safety inspector may meet the aeronautical experience requirements of paragraphs (b)(1) through (4) of this section in lieu of the aeronautical experience requirements of Appendix E, paragraph (c)(2)(ii) to GACAR Part 61.

(1) Notwithstanding the requirement to receive and log training as prescribed in GACAR § 61.89, a test pilot, CAA test pilot, or aviation safety inspector may receive 15 hours of instrument training on the areas of operation listed in Section IV(d) of Appendix B to GACAR Part 141 from an instructor pilot for the manufacturer of an experimental powered-lift in lieu of an authorized instructor, provided—

(i) The training is conducted in accordance with the manufacturer's proposed training curriculum in the experimental powered-lift; and

(ii) The test pilot, CAA test pilot, or aviation safety inspector receives a logbook or training record endorsement from the instructor pilot certifying that the applicant satisfactorily completed the training curriculum specified in paragraph (b)(1)(i) of this section.

(2) A test pilot, CAA test pilot, or aviation safety inspector may accomplish the practical test

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preparation requirements in Appendix E, paragraph (c)(2)(i) to GACAR Part 61 with an instructor pilot for the manufacturer of the experimental powered-lift.

(3) A test pilot, CAA test pilot, or aviation safety inspector may accomplish the cross-country flight specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61 for an instrument-powered-lift rating without an authorized instructor, provided the test pilot, CAA test pilot, or aviation safety inspector—

(i) Completes the cross-country flight specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61 with a pilot who serves as an instructor pilot for the manufacturer of the experimental powered-lift; and

(ii) Obtains a logbook or training record endorsement from the instructor pilot certifying that the person completed the cross-country flight.

(4) A test pilot, CAA test pilot, or aviation safety inspector may satisfy the alternate requirements in GACAR § 100.235 in lieu of the cross-country aeronautical experience requirements specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61.

(c) *Alternate logging requirement.* Notwithstanding the logging requirements in GACAR § 61.13(d)(1), a test pilot, CAA test pilot, or aviation safety inspector may log PIC flight time for the purpose of satisfying the 10-hour cross-country requirement in Appendix E, paragraph (c)(1) to GACAR Part 61 for flights when the pilot is the sole manipulator of the controls of an experimental powered-lift for which the pilot is not rated, provided—

(1) The test pilot, CAA test pilot, or aviation safety inspector is acting as PIC of the experimental powered-lift in accordance with a letter of authorization issued by the President; and

(2) The flight is conducted for the purpose of research and development or showing compliance with the GACAR in accordance with the experimental certificate issued to the powered-lift pursuant to GACAR §21.173.

§ 100.227 Instructor pilots: Alternate aeronautical experience and logging requirements for an instrument-powered-lift rating.

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(a) *General applicability.* An applicant for an instrument-powered-lift rating who is an instructor pilot for the manufacturer of an experimental powered-lift may satisfy the alternate aeronautical experience and logging requirements set forth in paragraphs (b) and (c) of this section, provided—

- (1) The flights are conducted in an experimental powered-lift at the manufacturer; and
- (2) The applicant is authorized by the President to act as PIC of the experimental powered-lift.

(b) *Alternate aeronautical experience requirements.* An instructor pilot may meet the aeronautical experience requirements of paragraphs (b)(1) through (4) of this section in lieu of the aeronautical experience requirements of Appendix E, paragraph (c)(2) to GACAR Part 61.

(1) Notwithstanding the requirement to receive and log training as prescribed in GACAR § 61.89, an instructor pilot may meet the requirements of paragraphs (b)(1)(i) and (ii) of this section in lieu of the 15 hours of training with an authorized instructor required by Appendix E, paragraph (c)(2) to GACAR Part 61.

(i) The instructor pilot provided the manufacturer's proposed training curriculum to a test pilot, CAA test pilot, or aviation safety inspector in the experimental powered-lift, which includes 15 hours of training on the areas of operation listed in Section IV(d) of Appendix B to GACAR Part 141; and

(ii) The instructor pilot receives a logbook or training record endorsement from a management official within the manufacturer's organization certifying that the instructor pilot provided the training specified in paragraph (b)(1)(i) of this section.

(2) An instructor pilot may accomplish the practical test preparation requirements in Appendix E, paragraph (c)(2)(i) to GACAR Part 61 with another pilot who serves as an instructor pilot for the manufacturer of the experimental powered-lift.

(3) An instructor pilot may accomplish the cross-country flight specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61 for an instrument-powered-lift rating without an authorized instructor, provided the instructor pilot—

(i) Completes the cross-country flight specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61 with another pilot who serves as an instructor pilot for the manufacturer of the experimental powered-lift; and

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(ii) Obtains a logbook or training record endorsement from the instructor pilot certifying that the person completed the cross-country flight.

(4) An instructor pilot may satisfy the alternate requirements in GACAR § 100.235 in lieu of the cross-country aeronautical experience requirements specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61.

(c) *Alternate logging requirement.* Notwithstanding the logging requirements in GACAR § 61.13(d)(3), an instructor pilot may log PIC flight time for the purpose of satisfying the 10-hour cross-country requirement in Appendix E, paragraph (c)(1) to GACAR Part 61 for flights when the pilot is serving as an instructor pilot for the manufacturer of an experimental powered-lift for which the pilot is not rated, provided the pilot—

(1) Is acting as PIC of the experimental powered-lift in accordance with a letter of authorization issued by the President; and

(2) The flight is conducted for the purpose of crew training in accordance with the experimental certificate issued to the powered-lift pursuant to GACAR §21.173.

§ 100.229 Initial cadre of instructors: Alternate aeronautical experience and logging requirements for an instrument-powered-lift rating.

(a) *General applicability.* An applicant for an instrument-powered-lift rating may satisfy the alternate aeronautical experience and logging requirements set forth in paragraphs (b) and (c) of this section, provided—

(1) The applicant is authorized by the President to serve as an initial check pilot, chief instructor, assistant chief instructor, or training center evaluator for the purpose of initiating training in a powered-lift under an approved training program under GACAR Part 135, 141, or 142, as appropriate; and

(2) The flights are conducted in type-certificated powered-lift at the manufacturer.

(b) *Alternate aeronautical experience requirements.* Notwithstanding the instrument rating requirements of GACAR § 61.89, an applicant may meet the requirements in paragraphs (b)(1) through (4) of this section in lieu of the aeronautical experience requirements of Appendix E,

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paragraph (c)(2) to GACAR Part 61.

(1) Notwithstanding the requirement to receive and log training as prescribed in GACAR § 61.89, an applicant may receive 15 hours of instrument training on the areas of operation listed in Section IV(d) of Appendix B to GACAR Part 141 from an instructor pilot for the manufacturer of a powered-lift in lieu of an authorized instructor, provided—

(i) The training is conducted in accordance with the manufacturer's training curriculum in the powered-lift; and

(ii) The applicant receives a logbook or training record endorsement from the instructor pilot certifying that the applicant satisfactorily completed the training curriculum specified in paragraph (b)(1)(i) of this section.

(2) An applicant may accomplish the practical test preparation requirements in Appendix E, paragraph (c)(2)(i) to GACAR Part 61 with a pilot who serves as an instructor pilot for the manufacturer of the powered-lift.

(3) An applicant may accomplish the cross-country flight specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61 for an instrument-powered-lift rating without an authorized instructor, provided the applicant—

(i) Completes the cross-country flight specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61 with a pilot who serves as an instructor pilot for the manufacturer of the powered-lift; and

(ii) Obtains a logbook or training record endorsement from the instructor pilot certifying that the person completed the cross-country flight.

(4) An applicant may satisfy the alternate requirements in GACAR § 100.235 in lieu of the cross-country aeronautical experience requirements specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61.

(c) *Alternate logging requirement.* Notwithstanding the logging requirements in GACAR § 61.13(d)(1), an applicant for an instrument-powered-lift rating may log PIC flight time for the purpose of satisfying the 10-hour cross-country requirement in Appendix E, paragraph (c)(1) to GACAR Part 61 for flights when the applicant is the sole manipulator of the controls of a

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powered-lift for which the pilot is not rated, provided—

- (1) The applicant is manipulating the controls of the powered-lift with a person onboard who serves as an instructor pilot for the manufacturer;
- (2) The applicant is performing the duties of PIC; and
- (3) The flight is conducted in accordance with the manufacturer's training curriculum for the powered-lift.

§ 100.231 Pilots receiving training under an approved training program: Alternate requirements for an instrument-powered-lift rating.

(a) *General applicability.* An applicant for an instrument-powered-lift rating may satisfy the alternate requirements set forth in paragraphs (b) and (c) of this section, provided the applicant is receiving training under an approved training program under GACAR Part 135, 141, or 142 for the purpose of obtaining an instrument-powered-lift rating.

(b) *Alternate aeronautical experience requirements.* An applicant may satisfy the alternate requirements in GACAR § 100.235 in lieu of the cross-country aeronautical experience requirements specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61.

(c) *Use of full flight simulators.* In addition to the permitted credit for use of a full flight simulator in Appendix E, paragraph (e) to GACAR Part 61, an applicant for an instrument-powered-lift rating may credit a maximum of 4 hours toward the aeronautical experience requirement in Appendix E, paragraph (c)(1) to GACAR Part 61 that requires 10 hours of cross-country time in a powered-lift, provided—

- (1) The aeronautical experience was obtained performing the duties of PIC during a simulated cross-country flight in a Level C or higher full flight simulator that represents the powered-lift category;
- (2) The cross-country flight includes the performance of instrument procedures under simulated instrument conditions; and
- (3) The sessions are conducted in accordance with an approved training program under GACAR Part 135, 141, or 142.

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§ 100.233 Alternate means to satisfy the cross-country aeronautical experience requirements for a commercial pilot certificate with a powered-lift category rating.

Notwithstanding the eligibility requirement in GACAR § 61.153, an applicant who does not meet the cross-country aeronautical experience requirements specified in Appendix D, paragraph (e) to GACAR Part 61 will be considered eligible for a commercial pilot certificate with a powered-lift category rating as specified in paragraphs (a) and (b) of this section.

(a) An applicant who does not meet the cross-country aeronautical experience requirements specified in Appendix D, paragraph (e)(3)(ii) and (iii) to GACAR Part 61 will be considered eligible for a commercial pilot certificate with a powered-lift category rating, provided the applicant has logged at least three cross-country flights consisting of—

- (1) One 2-hour cross-country flight in a powered-lift in daytime conditions that consists of a total straight-line distance of more than 50 nautical miles from the original point of departure;
- (2) One 2-hour cross-country flight in a powered-lift in nighttime conditions that consists of a total straight-line distance of more than 50 nautical miles from the original point of departure;
and
- (3) An additional cross-country flight with landings at a minimum of three points, with one segment consisting of a straight-line distance of at least 50 nautical miles from the original point of departure. Except for the original point of departure, this additional cross-country flight must include landings at different points than the cross-country flights specified in paragraphs (a)(1) and (2) of this section.

(b) An applicant who does not have the cross-country aeronautical experience specified in Appendix D, paragraph (e)(4)(i) to GACAR Part 61 will be considered eligible for a commercial pilot certificate with a powered-lift category, provided the applicant has logged at least two cross-country flights with landings at a minimum of three points, with one segment consisting of a straight-line distance of at least 50 nautical miles from the original point of departure. Except for the original point of departure, the second cross-country flight must include landings at different points than the first cross-country flight.

§ 100.235 Alternate means to satisfy the cross-country aeronautical experience requirements for an instrument-powered-lift rating.

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(a) An applicant who does not meet the cross-country aeronautical experience requirements specified in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61 will be considered eligible for an instrument-powered-lift rating, provided the applicant has logged instrument time that includes instrument flight training on cross-country flight procedures, including two cross-country flights in a powered-lift, provided each cross-country flight—

(1) Is conducted with either an authorized instructor or an instructor pilot; and (2) Involves—

(i) A flight of 100 nautical miles along airways or by directed routing from an air traffic control facility;

(ii) An instrument approach at each aerodrome; and

(iii) Three different kinds of approaches with the use of navigation systems.

(b) Notwithstanding the requirements in Appendix E, paragraph (c)(2)(ii) to GACAR Part 61 for the cross-country flight in a powered-lift, an applicant for an instrument-powered-lift rating is not required to file a flight plan and perform the cross-country flight under instrument flight rules, provided—

(1) The powered-lift is not certificated for instrument flight; and

(2) The applicant holds one of the following—

(i) An instrument-airplane rating;

(ii) An instrument-helicopter rating; or

(iii) An airline transport pilot certificate.

§ 100.237 Alternate means to satisfy the cross-country aeronautical experience requirements for a private pilot certificate with a powered-lift category rating.

Notwithstanding the eligibility requirement in GACAR § 61.133, an applicant who does not meet the cross-country aeronautical experience requirements specified in Appendix C, paragraph (e) to GACAR Part 61 will be considered eligible for a private pilot certificate with a powered-lift

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category rating as specified in paragraphs (a) and (b) of this section.

(a) Cross-country aeronautical experience at night. An applicant who does not meet the cross-country aeronautical experience specified in Appendix C, paragraph (e) to GACAR Part 61 will be considered eligible for a private pilot certificate with a powered-lift category rating, provided the applicant has received 3 hours of night flight training that includes two cross-country flights that are each over 50 nautical miles total distance.

(b) Solo cross-country aeronautical experience. An applicant who does not meet the solo cross-country aeronautical experience specified in Appendix C, paragraph (e) to GACAR Part 61 will be considered eligible for a private pilot certificate with a powered-lift category rating, provided the applicant has completed—

(1) One solo cross-country flight of 100 nautical miles total distance, with landings at three points, and one segment of the flight being a straight-line distance of more than 25 nautical miles between the takeoff and landing locations; and

(2) An additional solo cross-country flight in a powered-lift with landings at a minimum of three points, with one segment consisting of a straight-line distance of at least 50 nautical miles from the original point of departure. Except for the original point of departure, the additional cross-country flight must include landings at different points than the first cross-country flight.

§ 100.239 Alternate means to satisfy minimum curriculum content in certain appendices to GACAR Part 141.

(a) *Flight training minimum curriculum content.* Notwithstanding the minimum curriculum requirements in GACAR § 141.107(a), a training course for which approval is requested is not required to consist of training on a task specified in an area of operation listed in the applicable appendix to GACAR Part 141, provided—

(1) The training course for which approval is requested is for a powered-lift course;

(2) The powered-lift to be used in the course is not capable of performing the task specified in an area of operation listed in the applicable appendix to GACAR Part 141; and

(3) The President has issued waiver authority for that task in accordance with GACAR §

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100.207(b).

(b) *Cross-country minimum curriculum content.* Notwithstanding the minimum curriculum requirements in GACAR § 141.107(a), a training course for which approval is requested is not required to meet the minimum curriculum content specified in Appendices B, C, and D to GACAR Part 141, provided—

- (1) The training course for which approval is requested is for a powered-lift course.
- (2) The minimum curriculum content that is not met may consist of the training specified in—
 - (i) Appendix A, Section IV, paragraph (b)(5)(ii)(A);
 - (ii) Appendix A, Section V, paragraph (e)(1);
 - (iii) Appendix B, Section IV, paragraph (c)(3)(ii);
 - (iv) Appendix C, Section V, paragraph (b)(5)(ii) and (iii);
 - (v) Appendix C, Section VI, paragraph (e)(1); or
 - (vi) Appendix L, Section IV, paragraphs (b)(4)(ii)(A), (b)(4)(iii)(A), and Section V, paragraph (d)(1).
- (3) For each provision of training specified in paragraph (b)(2) of this section that is not met, the training course must include an additional cross-country flight consistent with the requirements of GACAR §§ 100.233, 100.235, and 100.237.

§ 100.241 Alternate qualification requirements for chief instructors, assistant chief instructors, and check instructors.

(a) Notwithstanding the qualification requirements in GACAR §§ 141.51(a)(1), 141.57(a)(1), and 141.59(a)(2)(ii), for a course of training under GACAR Part 141 that uses a powered-lift, a person seeking designation as a chief instructor, an assistant chief instructor, or a check instructor for checks and tests that relate to flight training must meet the following requirements—

- (1) Hold a commercial pilot certificate or an airline transport pilot certificate with the following

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ratings—

- (i) A powered-lift category rating;
- (ii) A type rating for the powered-lift used in the course; and
- (iii) An instrument-powered-lift rating or an airline transport pilot certificate with instrument privileges.

(2) Hold a current flight instructor certificate with the following ratings—

- (i) A powered-lift category rating; and
- (ii) An instrument-powered-lift rating, if an instrument rating is required for the course.

(b) Notwithstanding the qualification requirements in GACAR § 141.59(a)(3)(ii), for a course of training under GACAR Part 141 that uses a powered-lift, a person seeking designation as a check instructor for checks and tests that relate to ground training must hold a current flight instructor certificate with a powered-lift category rating or a ground instructor rating appropriate for the course.

§ 100.243 Pilot certification through completion of training, testing, and checking under GACAR Part 135.

(a) *GACAR Part 135 airman certification training program.*

(1) Subject to the requirements in Subpart L to GACAR Part 135, a certificate holder under GACAR Part 119 authorized to conduct GACAR Part 135 operations may obtain approval under GACAR § 135.381 to establish and implement a training curriculum to satisfy the following:

- (i) Ground training, flight training, and aeronautical experience requirements in GACAR § 61.89 and GACAR § 100.231 for the addition of an instrument-powered-lift rating to a commercial pilot certificate;
- (ii) Ground training, flight training, and aeronautical experience requirements in GACAR § 61.83(b) for the addition of an aircraft category rating to a commercial pilot certificate; and

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(iii) Ground and flight training requirements in GACAR § 61.83(d) to add a type rating to a commercial pilot certificate.

(2) No certificate holder may use a person, nor may any person serve, as an instructor in a training curriculum approved to meet the requirements of paragraph (a)(1) of this section unless, in addition to being qualified under GACAR §§ 135.395 and 135.399, the person holds a flight instructor certificate with a powered-lift category rating and instrument-powered-lift rating issued under GACAR Part 61.

(3) A certificate holder may train a pilot in a training curriculum approved to meet the requirements of paragraph (a)(1) of this section only if the pilot is employed by the certificate holder under GACAR Part 119 and holds at least the certificates and ratings set forth by GACAR § 100.215(a).

(4) In addition to GACAR § 135.383, any curriculum approved under paragraphs (a)(1)(i) through (iii) of this section must include the applicable aeronautical knowledge areas, areas of operation, and flight training required by GACAR Part 61. If an alternative requirement is provided in this part, that alternative may be used.

(b) *GACAR Part 135 airman certification and checking.*

(1) A pilot who is employed by a certificate holder under GACAR Part 119 authorized to conduct operations under GACAR Part 135 who completes the approved curricula in paragraphs (a)(1)(i) through (iii) of this section may apply to add a powered-lift category rating concurrently with a powered-lift instrument rating and an initial powered-lift type rating to a commercial pilot certificate if the person meets the following requirements:

(i) Meets the requirements of GACAR §§ 61.83(b) and Appendix E, paragraph (c) of GACAR Part 61, or if an alternative requirement is provided in this part, that alternative may be used;

(ii) Has a training record endorsement from the certificate holder certifying that the pilot satisfactorily completed the applicable ground and flight training curricula in the approved GACAR Part 135 airman certification training program; and

(iii) Successfully completes the written or oral testing under GACAR § 135.349(a)(2) and (3), a competency check under GACAR § 135.349(b), and an instrument proficiency check

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under GACAR § 135.351 provided the following conditions are met:

(A) The competency check includes the maneuvers and procedures required for the issuance of a commercial pilot certificate with a powered-lift category rating, for the issuance of an instrument-powered-lift rating and for the issuance of a powered-lift type rating.

(B) The instrument proficiency check meets the requirements of GACAR § 135.351 to a PIC holding a commercial pilot certificate except that the instrument approaches to be included in the check must include all instrument approaches required for the issuance of an instrument-powered-lift rating and not only those for which the pilot is to be authorized to perform in GACAR Part 135 operations.

(2) GACAR §§ 135.349(c) and 135.355(b) are not applicable to the competency check and instrument proficiency check required by paragraph (b)(1)(iii) of this section.

(3) A pilot who meets paragraph (b)(1) of this section will be issued a commercial pilot certificate with a powered-lift category rating, an instrument-powered-lift rating, and a powered-lift type rating.

(4) An applicant who fails a check under paragraph (b)(1) of this section may reapply for the check only after the applicant has received:

(i) The necessary training from an authorized instructor or instructor pilot who has determined that the applicant is proficient to pass the test; and

(ii) An endorsement from an authorized instructor or instructor pilot who gave the applicant the additional training.

(c) *GACAR Part 135 certification testing and checking personnel.* The testing, competency checks, and instrument proficiency checks required by paragraph (b) of this section must be administered by one of the following:

(1) An aviation safety inspector.

(2) An Aircrew Program Designee who is authorized to perform competency checks and

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instrument proficiency checks for the certificate holder whose approved ground and flight training curricula has been satisfactorily completed by the pilot applicant.

(3) A Training Center Evaluator with appropriate certification authority who is also authorized to perform competency checks and instrument proficiency checks for the certificate holder whose approved ground and flight training curricula has been satisfactorily completed by the pilot applicant.

§ 100.247 Pilot qualification requirements to operate powered-lift under GACAR Part 135.

(a) Unless otherwise directed in the GACARs, powered-lift must continue to comply with rules applicable to aircraft specified in GACAR Part 135.

(b) Each certificate holder that conducts operations under GACAR Part 135 with powered-lift for which two pilots are required by the type certificate must:

(1) [Reserved]

(2) Include in initial ground training for pilots in command and upgrade ground training, instruction and facilitated discussion on the following:

(i) Leadership and command; and

(ii) Mentoring, including techniques for instilling and reinforcing the highest standards of technical

performance, airmanship, and professionalism in newly hired pilots.

(3) Include the training required by paragraph (b)(2)(ii) of this section in recurrent ground training for pilots in command every 36 calendar months.

(4) Include in initial flight training for pilots in command and upgrade flight training, sufficient scenario- based training incorporating crew resource management and leadership and command skills, to ensure the pilot's proficiency as PIC.

(c) In lieu of compliance with the operating experience requirements listed in GACAR § 135.343(a)(1) through (4), no certificate holder may use a person, nor may any person serve, as PIC of

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a powered-lift unless that person possesses 20 hours of operating experience in each make and basic model of powered-lift to be flown.

(d) To comply with GACAR § 135.405, initial, transition, and upgrade ground training for powered-lift pilots must include instruction in GACAR § 135.405(b)(6)(iv), as applicable.

§ 100.249 References to class in GACAR Parts 135, 141, and 142.

(a) References to class of aircraft in GACAR § 135.347(a)(1) and (2), are inapplicable when a powered-lift is used for the operation under GACAR Part 135.

(b) Notwithstanding the course content contained in the appendices to GACAR Part 141, references to a class rating or a class of aircraft in those appendices is inapplicable when a powered-lift is used for the course of training.

(c) References to class of aircraft in GACAR §§ 142.11(d)(2)(ii), 142.57(d)(3)(iii), 142.65(b)(1), and 142.79(b)(1) are inapplicable when a powered-lift or flight simulation training device representing a powered-lift is used for the operation under GACAR Part 142.

§ 100.251 Alternate means to satisfy minimum curriculum content in training courses under GACAR Part 142.

A training course for which approval is requested is not required to consist of training on a task specified in an area of operation if the powered-lift is not capable of performing the task, provided the President has issued waiver authority for that task in accordance with GACAR § 100.207(b).

§ 100.253 Alternate requirements for powered-lift without fully functional dual controls used in flight training.

(a) *Powered-lift equipped with an instantly accessible single, functioning control.*

(1) A person may utilize the alternate requirement provided in paragraph (a)(2) of this section only if the applicant holds at least the certificates and ratings set forth by GACAR § 100.215(a) and instruction is provided by:

(i) An instructor pilot for the manufacturer of the powered-lift under the manufacturer's

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proposed training curriculum, or

(ii) A flight instructor under an approved training curriculum under GACAR Part 135, 141, or 142, as applicable.

(2) Notwithstanding the requirements of GACAR §§ 61.199(b)(7) and 91.57(a), a person may operate a powered-lift that is being used for flight training without fully functioning dual controls provided—

(i) The powered-lift is equipped with a single functioning flight control that is instantly accessible by both the applicant and the instructor;

(ii) The single functioning flight control meets the certification standards for both pilot stations; and

(iii) The instructor has determined that the flight can be conducted safely.

(b) *Full flight simulator training for powered-lift with single functioning controls and a single pilot station.* A person may apply for a powered-lift category rating, an instrument-powered-lift rating, and a powered-lift type rating concurrently for a powered-lift with single controls and a single pilot station under an approved GACAR Part 135, 141, or 142 training program by meeting the requirements set forth in appendix A to this part.

(c) *Deviation authority.* Notwithstanding the requirements of GACAR §§ 61.199(b)(7) and 91.57, the President may authorize a deviation to operate a powered-lift that is being used for flight training in an approved training program under GACAR Part 135, 141, or 142 without fully functioning dual controls provided:

(1) The certificate holder demonstrates in a form and manner acceptable to the President that—

(i) The person providing the flight training and the PIC observing any applicable supervised operating experience can take immediate corrective action and full control of the powered-lift;

(ii) The flight training and any applicable supervised operating experience can be effectively conducted in the powered-lift; and

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(2) The President determines that the alternate flight training and applicable supervised operating experience set forth by paragraph (c)(1) of this section will not adversely affect safety.

(3) The President may cancel or amend a letter of deviation authority at any time if the President determines that the requirements of this section are not met or if such action is necessary in the interest of safety.

§ 100.255 Alternate requirements for powered-lift without fully functioning dual controls used in supervised operating experience when adding a type rating.

(a) Notwithstanding GACAR § 61.87(f), a person who holds a powered-lift category, instrument powered-lift rating, and powered-lift type rating and seeks an additional type rating for a powered-lift with a single functioning control and a single pilot station in accordance with GACAR §§ 61.83 and 61.87(a), and does not meet requirements of GACAR § 61.87(e), will receive a limitation on the certificate restricting the person operating the powered-lift type from carrying any person or property on the aircraft, other than necessary for the purpose of paragraph (b) of this section.

(b) The limitation described in paragraph (a) of this section may be removed from the rating if the person complies with the following:

(1) Performs 25 hours of flight time in the type of powered-lift for which the limitation applies under the observation of a fully rated pilot without limitations for the aircraft, maintaining full communication with the observing pilot,

(2) Logs each flight and the observing pilot attests in writing to each flight, and

(3) Presents evidence of the supervised operating experience to any examiner or the President to have the limitation removed.

(c) The observing pilot must have unobstructed visual sight of the controls and instrumentation.

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SUBPART C - REQUIREMENTS FOR PERSONS OPERATING POWERED-LIFT

§ 100.301 Applicability.

Unless otherwise specified by this part, persons operating powered-lift must continue to comply with rules applicable to all aircraft in GACAR Parts 91 and 135 as applicable to the operation. In addition, any sections or paragraphs within sections under GACAR Parts 91 and 135 that refer to specific categories of aircraft (e.g. airplanes, helicopters, or rotorcraft) and that are not referenced in the table to GACAR § 100.302 or GACAR § 100.306, do not apply to powered-lift.

§ 100.302 Provisions under GACAR Part 91 applicable to powered-lift.

No person may operate a powered-lift under GACAR Part 91 unless that person complies with the regulations listed in the first column of table 1 to this section, notwithstanding their applicability to airplanes, helicopters, or rotorcraft, subject to the applicability provisions in the second column, and any additional requirements or clarification specified in the third column:

Table 1 to GACAR § 100.302

Regulation	Applicability	Additional requirements or clarification
GACAR Part 91, Subpart A General		
(a) [Reserved]		
GACAR Part 91, Subpart B Flight Rules		
(b) [Reserved]		
(c) GACAR § 91.49(b) concerning use of safety belts, etc.	Applies to all powered-lift	The exception under GACAR § 91.49(b) for seaplane and float equipped rotorcraft operations during movement on the surface applies to persons pushing off a powered-lift from the dock or persons mooring the powered-lift at the dock.

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Regulation	Applicability	Additional requirements or clarification
(c.1) GACAR § 91.69(a) through (f) concerning minimum altitudes for use of autopilots	Applies to all powered-lift	(1) The requirements referencing an Airplane Flight Manual under GACAR § 91.69(b) apply to a powered-lift's Aircraft Flight Manual. (2) Under GACAR § 91.69(c) no person operating a powered-lift may use an autopilot enroute, including climb and descent, below the following— (i) Either: (A) At a minimum engagement altitude specified in the Aircraft Flight Manual; or (B) If no minimum engagement altitude is specified, 500 feet, or at an altitude that is no lower than twice the altitude loss specified in the Aircraft Flight Manual for an autopilot malfunction in cruise conditions, whichever is greater; or (ii) Notwithstanding the requirements of paragraphs (c)(2)(i)(A) and (B) of this section, at an altitude specified by the President.

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Regulation	Applicability	Additional requirements or clarification
(d) GACAR § 91.67(e) concerning minimum safe altitudes	Applies to powered-lift operating in vertical-lift flight mode that are certificated and able to conduct an autorotation or an approved equivalent maneuver to a landing.	<p>Under GACAR § 91.67(e), a powered-lift may be operated in vertical-lift flight mode at less than the minimums prescribed in GACAR § 91.67(b) or (c), provided each person operating the powered-lift complies with any routes or altitudes specifically prescribed for powered-lift by the President. In all cases a powered-lift may not be operated below a minimum altitude of 300 feet above the surface except when necessary for takeoff and landing.</p> <p style="text-align: center;">Note:</p> <p>For wing-borne flight mode, the President may authorize a lower minimum altitude than prescribed in GACAR § 91.67 for a powered-lift if the President has determined, during type certification, the lower minimum altitude enables a transition from wing-borne to vertical-lift flight mode and the aircraft can conduct a safe autorotation, or an approved equivalent maneuver, to a landing but no lower than 300 feet above the surface.</p>
(e) GACAR § 91.121(b)(1) concerning direction of turns in Class G airspace	Applies to powered-lift operating in wing-borne flight mode	If the powered-lift is operating in vertical-lift flight mode, see paragraph (f) of this section.
(f) GACAR § 91.121(b)(2) concerning direction of turns in Class G airspace	Applies to powered-lift operating in vertical-lift flight mode	If the powered-lift is operating in wing-borne flight mode, see paragraph (e) of this section.

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Regulation	Applicability	Additional requirements or clarification
(g) [Reserved]		
(h) GACAR § 91.127(e) (3) concerning operations in Class D airspace	Applies to powered-lift preparing to land in wing-borne flight mode	
(i) GACAR § 91.127(f) (1) concerning operations in Class D airspace	Applies to powered-lift operating in wing-borne flight mode	(1) If the powered-lift is operating in vertical-lift flight mode, see paragraph (j) of this section. (2) GACAR § 91.127(f)(1) does not apply when the operator of a powered-lift is conducting a circling approach or when otherwise requested by air traffic control (ATC).
(j) GACAR § 91.127(f) (2) concerning operations in Class D airspace	Applies to powered-lift operating in vertical-lift flight mode	(1) If the powered-lift is operating in wing-borne flight mode, see paragraph (i) of this section. (2) GACAR § 91.127(f)(2) does not apply when the operator of a powered-lift is conducting a circling approach or when otherwise requested by ATC.
(k) [Reserved]		

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Regulation	Applicability	Additional requirements or clarification
(l) GACAR § 91.161(a) and (b) concerning fuel (energy) requirements for VFR flight	Applies to powered-lift	<p>(1) A powered-lift with the performance capability, as outlined in the Aircraft Flight Manual, to conduct a landing in the vertical-lift flight mode along the entire route of flight may use the VFR fuel requirements outlined in GACAR § 91.161(b).</p> <p>(2) Powered-lift unable to meet the requirements of paragraph (l)(1) of this section must use the rule requirements outlined in GACAR § 91.161(a).</p>
(m) GACAR § 91.165(a) concerning basic VFR weather minimums	The helicopter provision under GACAR § 91.165(a) applies to powered-lift operating in vertical-lift flight mode and at a speed that allows the pilot to see any other traffic or obstructions in time to avoid a collision	<p>(1) Except as provided in GACAR § 91.165(b), powered-lift that meet the requirements of paragraph (m) of this section may operate under the helicopter VFR visibility minimums outlined under GACAR § 91.165(a) in class G airspace.</p> <p>(2) Powered-lift unable to meet the requirements of paragraph (m) of this section must use the VFR visibility minimums in GACAR § 91.165(a) for aircraft other than helicopters.</p>

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Regulation	Applicability	Additional requirements or clarification
(n) GACAR § 91.165(b)(1) concerning basic VFR weather minimums	Applies to powered-lift operating in the vertical-lift flight mode and at a speed that allows the pilot to see any other traffic or obstructions in time to avoid a collision	<p>(1) Powered-lift that meet the requirements of paragraph (n) of this section may use the VFR visibility minimums outlined in GACAR § 91.165(b)(1) in Class G airspace.</p> <p>(2) Powered-lift unable to meet the requirements of paragraph (n) of this section must use the visibility minimums outlined in GACAR § 91.165(b)(2).</p>
(o) GACAR § 91.165(b)(2) concerning basic VFR weather minimums	Applies to powered-lift	Powered-lift operating in Class G airspace that cannot meet the requirements of paragraph (n) of this section must use the VFR visibility minimums outlined under GACAR § 91.165(b)(2).
(p) GACAR § 91.167(b)(3), (b)(4), and (c) concerning special VFR weather minimums	The helicopter exceptions outlined in GACAR § 91.167(b)(3), (b)(4), and (c) apply to powered-lift operating in vertical-lift flight mode when those aircraft are operated at a speed that allows the pilot to see any other traffic or obstructions in time to avoid a collision	

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Regulation	Applicability	Additional requirements or clarification
(q) GACAR § 91.181(a)(3) and (b)(2)(ii) concerning fuel (energy) requirements for IFR flight	The helicopter provisions in GACAR § 91.181(a)(3) and (b)(2)(ii) apply to powered-lift authorized to conduct helicopter instrument flight procedures and that have the performance capability for the entire flight to conduct a landing in the vertical-lift flight mode, as outlined in the Aircraft Flight Manual	<p>(1) Powered-lift that meet the requirements of paragraph (q) of this section may use the helicopter provisions under GACAR § 91.181(a)(3) and (b)(2)(ii).</p> <p>(2) Powered-lift that are unable to meet the requirements outlined in paragraph (q) of this section must use the 45-minute fuel/energy requirement outlined in GACAR § 91.181(a)(3) and the aircraft requirement outlined in GACAR § 91.181(b)(2)(i).</p>
(r) GACAR § 91.185(b)(2)(ii) and (c)(1)(ii) concerning IFR flight plans	Applies to powered-lift authorized to conduct helicopter instrument flight procedures and that have the performance capability to land in the vertical-lift flight mode, as outlined in the Aircraft Flight Manual	<p>(1) Powered-lift that meet the requirements of paragraph (r) of this section may use the helicopter provisions specified in GACAR § 91.185(b)(2)(ii) and (c)(1)(ii).</p> <p>(2) Powered-lift that are unable to meet the requirements outlined in paragraph (r) of this section must use the requirements for aircraft other than helicopters under GACAR § 91.185(b)(2)(i) and (c)(1)(i).</p>
(s) GACAR § 91.191(k)(1)(iii) concerning IFR takeoff and landing minima	Applies to powered-lift with two engines or less, that takeoff in vertical-lift flight mode, and that are authorized to conduct helicopter instrument flight procedures	Powered-lift with two engines or less that are unable to meet the requirements outlined in this paragraph (s) must comply with GACAR § 91.191(k)(1)(i).

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Regulation	Applicability	Additional requirements or clarification
(t) [Reserved]		
GACAR Part 91, Subpart C Equipment, Instrument, and Certificate Requirements		
(u) GACAR § 91.303(c) (14) concerning anti-collision lights	Applies to small powered-lift	Position and anti-collision lights must meet GACAR § 23.2530(b)
(v) GACAR § 91.303(e)(6) concerning gyroscopic rate-of-turn indicator	Applies to powered-lift certified for instrument flight rules operations	
(w) GACAR § 91.303(c)(17) concerning the requirement for an ELT on all flights	Applies to all powered-lift	

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Regulation	Applicability	Additional requirements or clarification
(x) GACAR § 91.303(a) concerning required equipment on all flights	Applies to all powered-lift	(a) All powered-lift must be equipped with an approved altitude alerting system or device that is in operable condition and meets the requirements of paragraph (b). (b) Each altitude alerting system or device required by paragraph (a) of this section must be able to— (1) Alert the pilot— (i) Upon approaching a preselected altitude in either ascent or descent, by a sequence of both aural and visual signals in sufficient time to establish level flight at that preselected altitude; or (ii) Upon approaching a preselected altitude in either ascent or descent, by a sequence of visual signals in sufficient time to establish level flight at that preselected altitude, and when deviating above and below that preselected altitude, by an aural signal; (2) Provide the required signals from sea level to the highest operating altitude approved for the airplane in which it is installed; (3) Preselect altitudes in increments that are commensurate with the altitudes at which the aircraft is operated; (4) Be tested without special equipment to determine proper operation of the alerting signals; and (5) Accept necessary barometric pressure settings if the system or device operates

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Regulation	Applicability	Additional requirements or clarification
		on barometric pressure. However, for operation below 3,000 feet AGL, the system or device need only provide one signal, either visual or aural, to comply with this paragraph. A radio altimeter may be included to provide the signal if the operator has an approved procedure for its use to determine DA/DH or MDA, as appropriate.
(y) GACAR § 91.303(q) concerning the requirement to equip aircraft with TAWS	Applies to powered-lift configured with 6 or more passenger seats, excluding any pilot seat	Instead of terrain awareness and warning system (TAWS), powered-lift must be equipped with a helicopter terrain awareness and warning system (HTAWS) that meets the requirements in TSO-C194 and Section 2 of RTCA DO-309 (incorporated by reference, see GACAR § 100.109) or an approved TAWS A/HTAWS hybrid system.
(y.1) GACAR § 91.303(r) concerning the requirement to equip aircraft with a CVR	Applies to powered-lift with a passenger seating configuration of six or more seats, for which two pilots are required by certification or operating rules, and that are required to have a cockpit voice recorder under GACAR § 91.303(r).	The cockpit voice recorder must be installed and equipped in accordance with the certification provisions listed in § GACAR 91.303(r) or such airworthiness criteria as the President may find provide an equivalent level of safety in accordance with GACAR § 21.41(b).
GACAR Part 91, Subpart D Special Flight Operations		
(z) [Reserved]		
(z.1) GACAR § 91.411 concerning REMS special flight operations	Applies to all powered-lift conducting REMS	See Appendix D. Section VI. REMS Operations below for further details.

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Regulation	Applicability	Additional requirements or clarification
(z.2) GACAR § 91.413 concerning RHO special flight operations	Power-lift aircraft are prohibited from conducting RHO special flight operations.	
(z.3) GACAR § 91.415 concerning NVIS special flight operations	Power-lift aircraft are prohibited from conducting NVIS special flight operations.	
(z.4) GACAR § 91.416 concerning air ambulance special flight operations	Applies to all powered-lift conducting air ambulance operations.	Note: The President may prescribe additional requirements for air ambulance operations that utilize powered-lift aircraft that are deemed necessary to maintain an acceptable level of safety for the operation.
GACAR Part 91, Subpart E Maintenance, Preventive Maintenance, and Alterations		

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Regulation	Applicability	Additional requirements or clarification
(aa) GACAR § 91.449(e) through (h) concerning aircraft inspection programs	Applies to technically-advanced powered-lift which are powered-lift equipped with an electronically advanced system in which the pilot interfaces with a multi-computer system with increasing levels of automation in order to aviate, navigate, or communicate	<p>(1) Unless otherwise authorized by the President, a technically advanced powered-lift must be equipped with an electronically advanced multi-computer system that includes one or more of the following installed components:</p> <p>(i) An electronic Primary Flight Display (PFD) that includes, at a minimum, an airspeed indicator, turn coordinator, attitude indicator, heading indicator, altimeter, and vertical speed indicator;</p> <p>(ii) An electronic Multifunction Display (MFD) that includes, at a minimum, a moving map using Global Positioning System (GPS) navigation with the aircraft position displayed;</p> <p>(iii) A multi-axis autopilot integrated with the navigation and heading guidance system; and</p> <p>(iv) Aircraft design with advanced fly-by-wire-flight control system that utilizes electronically operated controls with no direct mechanical link from the pilot to the control surfaces.</p> <p>(2) The display elements described in paragraphs (aa)(1)(i) and (ii) of this section must be continuously visible.</p>
(bb) GACAR § 91.451 concerning altimeter system and altitude reporting equipment	Applies to all powered-lift	
Appendix D. Section VI. REMS Operations.		

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Regulation	Applicability	Additional requirements or clarification
(cc) All sections.	Applies to powered-lift conducting operations in accordance with GACAR § 91.411 Rotorcraft Emergency Medical Service (REMS) operations	<p>(1) Subject to the additional requirements prescribed in paragraph (2) below, all the requirements for REMS prescribed in GACAR Part 91, Appendix D, Section VI apply to REMS operations utilizing powered-lift aircraft.</p> <p>(2) <i>Operating Minimums:</i></p> <p>(A) For non-mountainous, local flying areas, powered-lift must comply with the following weather minimums</p> <p>(i) During day operations in a vertical-lift or wing-borne flight mode, a ceiling of 800 feet and visibility of 2 SM;</p> <p>(ii) During night operations in a vertical-lift flight mode, a ceiling of 800 feet and visibility of 3 SM; and</p> <p>(iii) During night operations in a wing-borne flight mode, a ceiling of 1,500 feet and visibility of 3 SM.</p> <p>(B) For non-mountainous, non-local flying areas, powered-lift must comply with the following weather minimums:</p> <p>(i) During day operations in a vertical-lift or wing-borne flight mode, a ceiling of 800 feet and visibility of 3 SM;</p> <p>(ii) During night operations in a vertical-lift flight mode, a ceiling of 1,000 feet and visibility of 3 SM.</p> <p>(iii) During night operations in a wing-borne flight mode, a ceiling of 1,500 feet and visibility of 3 SM.</p> <p>(C) For mountainous local flying areas, powered-lift must comply with the</p>

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Regulation	Applicability	Additional requirements or clarification
		<p>following weather minimums:</p> <p>(i) During day operations in a vertical-lift or wing-borne flight mode, a ceiling of 800 feet and visibility of 3 SM;</p> <p>(ii) During night operations in a vertical-lift flight mode, a ceiling of 1,000 feet and visibility of 3 SM.</p> <p>(iii) During night operations in a wing-borne flight mode, a ceiling of 2,500 feet and visibility of 3 SM.</p> <p>(D) For mountainous non-local flying areas, powered-lift must comply with the following weather minimums:</p> <p>(i) During day operations in a vertical-lift or wing-borne flight mode, a ceiling of 1,000 feet and visibility of 3 SM; and</p> <p>(ii) During night operations in a vertical-lift flight mode, a ceiling of 1,000 feet and visibility of 5 SM;</p> <p>(iii) During night operations in a wing-borne flight mode, a ceiling of 2,500 feet and visibility of 5 SM.</p> <p style="text-align: center;">Note:</p> <p>The President may prescribe additional requirements for REMS operations that utilize powered-lift aircraft that are deemed necessary to maintain an acceptable level of safety for the operation.</p>

§ 100.303 Reserved.

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§ 100.304 Reserved.

§ 100.305 Reserved.

§ 100.306 Provisions under GACAR Part 135 applicable to powered-lift.

No person may operate a powered-lift under GACAR Part 135 unless that person complies with the regulations listed in the first column of table 1 to this section, notwithstanding their applicability to airplanes, helicopters, or rotorcraft, subject to the applicability provisions in the second column and any additional requirements or clarification specified in the third column.

Table 1 to GACAR § 100.306

Regulation	Applicability	Additional requirements or clarification
GACAR Part 135, Subpart A General		
(a) [Reserved]		
(b) [Reserved]		
GACAR Part 135, Subpart B Flight Operations		
(c) [Reserved]		
(d) GACAR § 135.621 concerning briefing of passengers.	Applies to powered-lift conducting operations beyond the autorotational distance from the shoreline, or gliding distance of a shoreline	The passenger briefing must include use of life preservers, ditching procedures and emergency exit from the aircraft in the event of a ditching; and the location and use of life rafts and other life preserver devices if applicable.
(e) [Reserved]		
GACAR Part 135, Subpart C Aircraft and Equipment		
(f) GACAR § 135.113(b) concerning proving and validation tests.	Applies to all powered-lift unless the certificate holder has previously proven a powered-lift under GACAR Part 135	

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Regulation	Applicability	Additional requirements or clarification
(g) GACAR § 135.113(e)(1) concerning proving and validation tests.	Applies to all powered-lift unless a powered-lift of the same make or similar design has been proven or validated by that certificate holder under GACAR Part 135	
(h) [Reserved]		
(i) [Reserved]		
(j) [Reserved]		
(k) [Reserved]		
(l) [Reserved]		
(m) [Reserved]		
(n) [Reserved]		
(o) [Reserved]		
(p) [Reserved]		
(q) [Reserved]		
(r) [Reserved]		
(s) [Reserved]		
(t) [Reserved]		
(u) [Reserved]		
(v) GACAR § 135.207(q) concerning the requirement to equip with a radio altimeter	Applies to all powered-lift	
(w) GACAR § 135.207(o) concerning the requirement for redundant electrical supply	Applies to all powered-lift	

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Regulation	Applicability	Additional requirements or clarification
(x) [Reserved]		
(y) [Reserved]		
(z) GACAR § 135.207(h) concerning the requirement for emergency equipment for over-water operations	Applies to powered-lift operating beyond autorotational distance or gliding distance from the shoreline	<p>(1) The life preservers required need not be worn but must be readily available for its intended use and easily accessible to each occupant when the powered-lift is a multiengine aircraft operated at a weight that will allow it to climb, with the critical engine inoperative or while experiencing a critical change of thrust, at least 50 feet a minute, at an altitude of 1,000 feet above the surface.</p> <p>(2) For powered-lift unable to meet the requirements of paragraph (z)(1) of this section, the occupants must wear life preservers during the flight.</p> <p>(3) For purposes of paragraphs (z), (ii), (jj), and (kk) of this section, critical change of thrust means a failure that would most adversely affect the performance or handling qualities of an aircraft.</p>
(aa) [Reserved]		
(bb) [Reserved]		
(cc) [Reserved]		
(dd) [Reserved]		
(ee) [Reserved]		
(ff) [Reserved]		
(gg) [Reserved]		
(hh) [Reserved]		

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Regulation	Applicability	Additional requirements or clarification
(ii) GACAR § 135.145(a)(2) concerning aircraft performance requirements over-the-top or under IFR	Applies to powered-lift	No person may operate a multiengine powered-lift carrying passengers over-the-top or in IFR conditions at a weight that will not allow it to climb, with the critical engine inoperative or while experiencing a critical change of thrust as defined in paragraph (z) of this section, at least 50 feet a minute when operating at the MEAs of the route to be flown or 5,000 feet MSL, whichever is higher.
(jj) GACAR § 135.145(b) concerning aircraft performance requirements over-the-top or under IFR	Applies to powered-lift conducting offshore passenger operations	Multiengine powered-lift carrying passengers offshore may conduct such operations in over-the-top or in IFR conditions at a weight that will allow the powered-lift to climb at least 50 feet per minute with the critical engine inoperative or while experiencing a critical change of thrust as defined in paragraph (z) of this section, when operating at the MEA of the route to be flown or 1,500 feet MSL, whichever is higher.
(kk) GACAR § 135.143(c) concerning aircraft performance requirements over water	Applies to powered-lift	No person may operate a land aircraft carrying passengers over water unless it is a multiengine aircraft operated at a weight that will allow it to climb, with the critical engine inoperative or while experiencing a critical change of thrust as defined in paragraph (z) of this section, at least 50 feet a minute, at an altitude of 1,000 feet above the surface.

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Regulation	Applicability	Additional requirements or clarification
(ll) GACAR § 135.143(d) concerning aircraft performance requirements over water	Applies if the powered-lift is equipped with flotation devices and carrying passengers over water	
GACAR Part 135, Subpart G Rotorcraft Performance Operating Limitations		
(--) All sections.	Applies to powered-lift operating in vertical-lift flight mode	<p align="center">Note:</p> Powered-lift (VTOL) aircraft type certificated to “increased performance” or “category enhanced” performance criteria are capable of operating in performance class 1. Powered-lift (VTOL) aircraft type certificated to “essential performance” or “category basic” performance criteria are NOT capable of operating in performance class 1. The aircraft flight manual will provide further details of the type certificated performance capability.
GACAR Part 135, Subpart P Flight Release Rules		
(mm) [Reserved]		
(nn) [Reserved]		
(oo) [Reserved]		
(pp) [Reserved]		

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Regulation	Applicability	Additional requirements or clarification
(qq) GACAR § 135.655 concerning surface reference requirements for aircraft not equipped for IFR or VFR over-the-top	Applies if the powered-lift does not have the flight instrumentation listed in GACAR § 91.303(e) installed and operable	
(rr) GACAR § 135.658 concerning fuel (energy) and oil supply	Applies to all powered-lift except as provided in paragraph (ss) of this section	<p>(1) The President may authorize deviations from GACAR § 135.658 for specific routes with one or more predetermined suitable landing areas if the GACA finds the operation can be conducted safely. If the President authorizes such a deviation, an operations specification will be issued to the operator containing, at a minimum, the specific routes and the VFR fuel (energy) reserve specified in minutes. The President may, at any time, terminate any grant of deviation authority issued under this paragraph.</p> <p>(2) <i>Suitable landing area</i> for purposes of this paragraph (rr) and paragraph (ss) of this section means an area that provides the operator reasonable capability to land without causing undue hazard to persons or property. These suitable landing areas must be site specific, designated by the operator, and accepted by the President.</p>

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Regulation	Applicability	Additional requirements or clarification
(ss) GACAR § 135.658 concerning fuel (energy) and oil supply	Applies to powered-lift with the performance capability, as provided in the Aircraft Flight Manual, for the entire flight to conduct a landing in the vertical-lift flight mode	The President may authorize deviations from GACAR § 135.658 for specific routes with one or more predetermined suitable landing areas if the GACA finds the operation can be conducted safely. If the President authorizes such a deviation, an operations specification will be issued to the operator containing, at a minimum, the specific routes and the VFR fuel (energy) reserve specified in minutes. The President may, at any time, terminate any grant of deviation authority issued under this paragraph.
(tt) GACAR §135.667(b) concerning alternate aerodrome weather minimums	Applies to powered-lift authorized to conduct helicopter instrument flight procedures and which can land in the vertical-lift flight mode, as provided in the Aircraft Flight Manual	Powered-lift that do not meet these criteria must use the alternate aerodrome minimums specified for aircraft in GACAR § 135.667(a)
(uu) [Reserved]		
(vv) [Reserved]		
(ww) Section 135.671(a) concerning any time conditions are such that frost, ice, or snow may reasonably be expected to occur	Applies to all powered-lift	(1) Powered-lift critical surfaces, as outlined in the aircraft flight manual for that aircraft, must also be determined to be free of frost, ice, or snow. (2) Powered-lift critical surfaces under this section are determined by the manufacturer.

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Regulation	Applicability	Additional requirements or clarification
(xx) GACAR § 135.671(c) concerning an approved deicing/anti icing program	Applies to powered-lift that are type certificated and appropriately equipped for operations in icing conditions	
(yy) GACAR § 135.57(b)(2)(ii) concerning aerodrome requirements at night	Applies to powered-lift taking off or landing in vertical-lift flight mode and equipped with landing lights oriented in a direction that enables the pilot to see the area to be used for landing or takeoff marked by reflective material	If a powered-lift is not taking off or landing in vertical-lift flight mode and is not equipped with landing lights oriented in a direction that enables the pilot to see the area to be used for landing or takeoff marked by reflective material, the powered-lift must take off or land at an aerodrome with boundary or runway marker lights.
(zz) [Reserved]		

§ 100.307 Reserved.

§ 100.308 Reserved.

§ 100.309 Applicability of flight instruction; simulated instrument flight.

The requirement to hold the appropriate category and class rating in GACAR § 91.57(c)(1) is not applicable to operations conducted to meet alternate aeronautical experience requirements set forth in GACAR §§ 100.225, 100.227, and 100.229.

§ 100.310 Reserved.

§ 100.311 Reserved.

§ 100.312 Reserved.

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§ 100.313 Reserved.

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**SUBPART D - MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING,
AND ALTERATION REQUIREMENTS FOR POWERED-LIFT UNDER GACAR
PART 43**

§ 100.401 Applicability.

Unless otherwise specified by this part, powered-lift must continue to comply with rules applicable to all aircraft in GACAR Part 43.

§ 100.402 Maintenance provisions.

The following maintenance provisions under GACAR Part 43 that pertain to rotorcraft also apply to powered- lift:

(a) GACAR § 43.5(h) applies to certificate holders operating powered-lift under GACAR Part 135 in a remote area; and

(b) In lieu of complying with GACAR § 43.23(b), each person performing an inspection required by GACAR Part 91 on a powered-lift shall inspect critical parts in accordance with the maintenance manual or Instruction for Continuous Airworthiness, or as otherwise approved by the President.

(1) A “critical part” has the same meaning as provided in GACAR §§ 27.602 and 29.602.

(2) [Reserved].

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**APPENDIX A TO GACAR PART 100 - MINIMUM REQUIREMENTS FOR A PILOT
TRAINING PROGRAM IN A POWERED-LIFT ORIGINALLY TYPE
CERTIFICATED OR SEEKING TYPE CERTIFICATION WITH ONE SET OF
CONTROLS AND A SINGLE PILOT STATION**

1. Applicability.

(a) This appendix prescribes the minimum requirements to apply for a pilot training program for the following ratings in a powered-lift originally type certificated or seeking type certification with one set of controls and a single pilot station:

- (1) Powered-lift Category;
- (2) Powered-lift Type;
- (3) Instrument-Powered-lift.

(b) Notwithstanding the exceptions in GACAR § 100.211, a person utilizing the alternate pathway set forth in this appendix must apply for all three ratings simultaneously.

2. Eligibility.

(a) To utilize the alternate framework set forth by this appendix, an applicant must be qualified in accordance with the requirements set forth by GACAR § 100.215(a).

(b) The alternate framework set forth in this appendix may only be provided under a GACAR Part 135, 141, or 142 approved training program.

3. Ground Training.

(a) An applicant must receive and log all required ground training set forth by GACAR §§ 61.83(b) and 61.89(a)(2) prior to receiving training in accordance with section 4. of this appendix.

(b) Following the required ground training as set forth in paragraph (a) of this section, an applicant must successfully complete a written or oral check administered by the training provider.

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4. Simulator Training in a Level C or Higher Full Flight Simulator Representative of a Powered-Lift With Single Controls and a Single Pilot Station.

(a) In lieu of flight training in a powered-lift with single controls and a single pilot station, an applicant seeking a powered-lift category rating, instrument rating, and a type rating may complete all applicable flight training requirements prescribed in GACAR Part 61 or the corresponding framework prescribed in GACAR §§ 100.217 through 100.235 (except for the cross-country requirements in GACAR § 100.233), as applicable, in a qualified Level C or higher full flight simulator representative of the powered-lift type with single controls and a single pilot station.

(b) Following the training set forth in paragraph (a) of this section, the applicant must satisfactorily accomplish a check with a check pilot, a training center evaluator, an authorized instructor, instructor pilot, an aviation safety inspector, or another person authorized by the President to administer this check in a qualified Level C or higher full flight simulator in accordance with the approved training program. The check must consist of oral questioning followed by the satisfactory performance of all the maneuvers and procedures required for the issuance of a commercial pilot certificate with a powered-lift category rating, for the issuance of an instrument-powered-lift rating and for the issuance of a powered-lift type rating, except those tasks waived in accordance with GACAR § 100.207(c).

5. Aircraft Familiarity Flight.

(a) Within 90 days of an applicant's successful completion of the check set forth by section 4.(b) of this appendix, the applicant must observe an aircraft familiarity flight with an authorized instructor.

(b) The aircraft familiarity flight must include the following components:

(1) The authorized instructor must demonstrate the flight maneuvers and procedures required for the issuance of a commercial pilot certificate with a powered-lift category rating, for the issuance of an instrument-powered-lift rating and for the issuance of a powered-lift type rating, except those tasks waived in accordance with GACAR § 100.207(c), in the aircraft in flight, and

(2) The applicant must have unobstructed visual sight of the controls and instrumentation and maintain active communication with the authorized instructor for the entire flight.

(c) The aircraft familiarity flight may occur during one flight or over multiple flights.

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(d) Following successful completion of the aircraft familiarity flight, the authorized instructor may endorse the applicant to act as PIC of the specific powered-lift to accomplish the demonstration flight with an authorized instructor on board as set forth in section 6.(a) of this appendix. The endorsement is valid for 90 days from the date of successful completion of the full flight simulator check set forth by section 4.(b) of this appendix.

6. Demonstration and Solo Flights.

(a) Demonstration flight.

(1) After an applicant receives an endorsement to act as PIC in accordance with section 5.(d) of this appendix, the applicant must complete a demonstration flight under the direct observation of an authorized instructor.

(2) The demonstration flight must include the following components:

(i) The applicant must demonstrate the flight maneuvers and procedures required for the issuance of a commercial pilot certificate with a powered-lift category rating, for the issuance of an instrument-powered-lift rating and for the issuance of a powered-lift type rating, except those tasks waived in accordance with GACAR § 100.207(c), in the aircraft in flight, and

(ii) The authorized instructor must have unobstructed visual sight of the controls and instrumentation and maintain active communication with the applicant for the entire flight.

(3) The demonstration flight may occur during one flight or over multiple flights.

(4) Upon determination that the applicant has demonstrated satisfactory proficiency in the aircraft, the check pilot, training center evaluator, authorized instructor, instructor pilot, aviation safety inspector, or another person authorized by the President to administer this check may endorse the applicant to act as PIC of the specific powered-lift to conduct solo flight in accordance with paragraph (c) of this section. The endorsement is valid for 90 days from the day the demonstration flight is successfully completed.

(b) Failure to complete demonstration flight during endorsement period.

(1) If the applicant does not successfully complete the demonstration flight in paragraph (a) of

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this section within the 90-day endorsement period, the applicant may receive another endorsement by:

(i) Completing a demonstration of proficiency in the full flight simulator consisting of the tasks and maneuvers set forth by section 10. of this appendix, in addition to any maneuvers or procedures deemed necessary by the check pilot, training center evaluator, authorized instructor, instructor pilot, an aviation safety inspector, or other person authorized by the President to administer this check to ensure proficiency, and

(ii) Completing an aircraft familiarity flight meeting the requirements of section 5.(b) of this appendix.

(2) After the applicant meets the requirements of paragraph (b)(1) of this section, the applicant may receive another endorsement for the applicant to act as PIC of the specific powered-lift to accomplish the demonstration flight with an authorized instructor on board as set forth in section 6.(a) of this appendix. This endorsement is valid for 90 days from the day the demonstration of proficiency in the full flight simulator was successfully completed.

(c) Solo Flights. After an applicant receives an endorsement to conduct solo flights in accordance with section 6.(a)(4) of this appendix, the applicant must complete 20 hours of solo flight in the aircraft, which must include:

(1) 10 hours of solo flight time in accordance with Appendix D, paragraph (e)(4) to GACAR Part 61 or the corresponding alternate provision set forth in GACAR §§ 100.217 through 100.231 of this part;

(2) 10 hours of solo flight time that includes the maneuvers and procedures required for the issuance of a commercial pilot certificate with a powered-lift category rating, for the issuance of an instrument-powered-lift rating and for the issuance of a powered-lift type rating; and

(3) The alternate cross-country aeronautical experience requirements prescribed in GACAR § 100.233 of this part.

(d) Lapse of endorsement for solo flights. If the applicant does not successfully complete the solo flight time required in paragraph (c) of this section within the 90-day endorsement period, the applicant may receive another 90-day endorsement by satisfying the requirements of paragraph (d)(1) or (2) of this section, as applicable.

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(1) If the applicant seeks to renew the endorsement for another 90-day period and is within the 90-day period of the original endorsement, the applicant must complete a demonstration flight consisting of the tasks and maneuvers set forth by section 10. of this appendix, in addition to any maneuvers or procedures deemed necessary by the check pilot, training center evaluator, authorized instructor, instructor pilot, aviation safety inspector, or another person authorized by the President to ensure proficiency.

(2) If the applicant seeks another endorsement outside the 90-day period of the original endorsement, the applicant must:

(i) The applicant must satisfactorily complete a demonstration of proficiency in the full flight simulator consisting of the tasks and maneuvers set forth by section 10. of this appendix, in addition to any maneuvers or procedures deemed necessary by the authorized instructor to ensure proficiency, successful completion of which will result in a 90-day endorsement to accomplish a demonstration flight with an authorized instructor on board; and

(ii) The applicant must complete a demonstration flight with a check pilot, training center evaluator, authorized instructor, instructor pilot, aviation safety inspector, or another person authorized by the President to administer this check consisting of the tasks and maneuvers set forth by section 10. of this appendix, in addition to any maneuvers or procedures deemed necessary by the authorized instructor to ensure proficiency.

7. Practical Test.

(a) The applicant may meet the training requirements of Appendix D, paragraph (e)(3)(iv) to GACAR Part 61 in a Level C or higher FFS.

(b) A person who uses a flight simulator or flight training device for any portion of the practical test in accordance with GACAR § 61.87(a) after training in accordance with this appendix and does not meet the requirements of GACAR § 61.87(e) will—

(1) Receive a limitation that states “the certificate is subject to certain PIC limitations,” in lieu of the limitation set forth by GACAR § 61.87(f); and

(2) Be restricted from the carriage of persons or property other than necessary for the conduct of

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the flight.

(c) The limitation described under paragraph (b) of this section may be removed from the pilot certificate by meeting the requirements set forth in section 8. of this appendix.

8. Supervised Operating Experience for a Powered-Lift with Single Controls and a Single Pilot Station.

(a) The limitation set forth in paragraph 7.(b) of this appendix may be removed if the pilot complies with the following:

(1) Performs 10 hours of flight time in an aircraft of category and type for which the limitation applies under the observation of a pilot who holds a category and type rating without limitations for the aircraft, maintaining full communication with the observing pilot;

(2) Logs each flight and the observing pilot attests in writing to each flight; and

(3) Presents evidence of the supervised operating experience to any examiner to have the limitation removed.

(b) The flight time required in paragraph (a)(1) of this section must include a cross-country flight in a powered-lift under instrument flight rules on a flight plan filed with an air traffic control facility that involves—

(1) A flight of at least 100 nautical miles along airways or by directed routing from an air traffic control facility;

(2) An instrument approach at each aerodrome; and

(3) Three different kinds of approaches with the use of navigation systems.

(c) The observing pilot must have unobstructed visual sight of the controls and instrumentation.

9. Deviation Authority.

The President may authorize a deviation from the simulator qualification requirement in section 4. of this appendix stipulating that training must be completed in a qualified Level C or higher full flight

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simulator upon a determination by the President that—

- (a) The alternative training device is of adequate fidelity to be used as a substitution for in-aircraft flight training; and
- (b) The effectiveness and objectives of the training program can be met utilizing the alternative training device.

10. Maneuvers and Procedures Required for Certain Flights Prescribed by This Appendix.

This section sets forth the maneuvers and procedures required for flights required in accordance with sections 6.(b)(1)(i), 6.(d)(1), 6.(d)(2)(i), and 6.(d)(2)(ii) of this appendix, except those maneuvers and procedures under tasks waived in accordance with GACAR § 100.207(c).

- (a) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation, and aircraft systems;
- (b) Taxiing or surface operations, including runups;
- (c) Takeoffs and landings, including normal and crosswind;
- (d) Straight and level flight, and turns in both directions;
- (e) Climbs and climbing turns;
- (f) Aerodrome traffic patterns, including entry and departure procedures;
- (g) Collision avoidance, windshear avoidance, and wake turbulence avoidance;
- (h) Descents with and without turns;
- (i) Flight at various airspeeds from cruise to slow flight;
- (j) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall, and recovery from a full stall;
- (k) Emergency procedures and equipment malfunctions;

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- (l) Ground reference maneuvers;
- (m) Approaches to a landing with simulated engine malfunctions;
- (n) Go-arounds;
- (o) Approaches to the landing area;
- (p) Hovering and hovering turns; and
- (q) For a multiengine powered-lift, simulated one-engine-inoperative approaches and landings.