

Gleim Pilot Handbook

Twelfth Edition, First Printing
Updates
September 2026

NOTE: Sections with changes are indicated by a vertical bar in the left margin. Text that should be deleted is displayed with a line through it. New text is shown with blue underlined font.

If you are tested on any content not represented in our materials or this update, please share this information with Gleim so we can continue to provide the most complete test preparation experience possible. You can submit feedback at www.GleimAviation.com/questions. Thank you in advance for your help!

We have changed “Notice(s) to Air Missions (NOTAM)” to “Notice(s) to Airmen (NOTAM)” throughout the book to reflect the change in terminology by the FAA.

We have changed references to the Gleim *Flight Instructor Flight Maneuvers and Practical Test Prep* book to *CFI ACS Practical Test Prep: A Complete Guide to Every ACS Task* throughout.

Introduction and Overview of Certificates and Ratings

Page 5, FAA Requirements to Obtain a Pilot Certificate or Rating, Items 8.-9.: The 61.313 table was updated to remove the basic instrument maneuver requirement, and the practical test discussion was revised to reflect the Airman Certification Standards.

If you are applying for a sport pilot certificate with...	Then you must log at least...	Which must include at least...
(a) Airplane category and single-engine land or sea class privileges,	(1) 20 hours of flight time, including at least 15 hours of flight training from an authorized instructor in a single-engine airplane and at least 5 hours of solo flight training in the areas of operation listed in Sec. 61.311, ~~and basic instrument maneuvers under simulated instrument conditions as indicated in Sec. 61.93(e)(12),~~	(i) 2 hours of cross-country flight training, (ii) 10 takeoffs and landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport; (iii) One solo cross-country flight of at least 75 nautical miles total distance, with a full-stop landing at a minimum of two points and one segment of the flight consisting of a straight-line distance of at least 25 nautical miles between the takeoff and landing locations, and (iv) 2 hours of flight training with an authorized instructor on those areas of operation specified in Sec. 61.311 in preparation for the practical test within the preceding 2 calendar months from the month of the test.

9. ~~Successfully complete a practical (flight) test, which will be given as a final exam by an FAA inspector or designated pilot examiner. The practical test will be conducted as specified in the FAA's Sport Pilot Practical Test Standards (FAA-S-8081-29).~~ Complete a practical test given by an FAA inspector or a designated pilot examiner. The test is conducted to the applicable Airman Certification Standards (ACS), incorporated by reference in 14 CFR 61.14.
 - a. ~~FAA inspectors are FAA employees and do not charge for their services.~~
 - b. ~~FAA-designated pilot examiners are proficient, experienced flight instructors and pilots who are authorized by the FAA to conduct practical tests. They do charge a fee.~~ A designated pilot examiner is an experienced instructor or pilot authorized by the FAA to conduct practical tests and charges a fee.
 - c. ~~The FAA's Sport Pilot Practical Test Standards–Airplane are outlined and reprinted in the Gleim Sport Pilot Flight Maneuvers and Practical Test Prep book.~~

Page 8, FAA Requirements to Obtain a Private Pilot Certificate, Item 7.a.4): This edit clarifies the period within which the required training must be performed.

- 4) ~~3 hr. in airplanes in preparation for the private pilot practical test within 60 days prior to that test~~ performed within the preceding 2 calendar months from the month of the test

Page 12, FAA Requirements to Obtain a Commercial Pilot Certificate, Item 6.c.2): This update reflects the addition of TAA to the aeronautical experience requirements.

- 2) ~~10 hr. of training in an airplane that has a retractable landing gear, flaps, and controllable pitch propeller, or is turbine-powered~~ a complex airplane, a turbine-powered airplane, or a technically advanced airplane (TAA)
 - a) ~~For a multi-engine rating, the airplane must be a multi-engine airplane and meet the other requirements~~ 10 hr. must be in a multi-engine complex or turbine-powered airplane.

Page 15, FAA Requirements to Obtain a Flight Instructor Certificate Without a Sport Pilot Rating, Item 6.b.: These edits align the requirements for training an initial flight instructor applicant with 14 CFR 61.183.

- b. ~~A CFI who provides training to an initial applicant for a flight instructor certificate must have held a flight instructor certificate for at least 24 months and have given at least 200 hr. of flight training as a CFI.~~ trains an initial flight instructor applicant must meet the requirements of 14 CFR 61.183, hold the appropriate flight instructor rating, and satisfy one of the following:
 - 1) Have held a CFI certificate for at least 24 calendar months and logged 200 hr. of dual instruction (80 hr. for gliders)
 - 2) Have trained and endorsed at least five applicants for a practical test within the preceding 24 calendar months, with a first-time pass rate of at least 80%
 - 3) Have completed the hour requirement in item 1) and graduated from an FAA-approved flight instructor enhanced qualification training program (FIEQTP)

Page 16, FAA Requirements to Obtain a Flight Instructor Certificate With a Sport Pilot Rating, Item 3.a.3): This edit reflects the aircraft eligibility requirements of 14 CFR 61.316.

- 3) ~~15 hours of flight time as pilot in command in a single-engine airplane that is a light sport aircraft~~ an aircraft meeting the performance limits and design requirements of 14 CFR 61.316.

Page 17, FAA Requirements to Obtain a Flight Instructor Certificate With a Sport Pilot Rating, New item 9.I.: This edit adds stalls to the list of required areas of training. Subsequent items have been relettered accordingly.

I. Stalls (not applicable to lighter-than-air, powered parachutes, helicopters, and gyroplanes)

Study Unit 1 – Airplanes and Aerodynamics

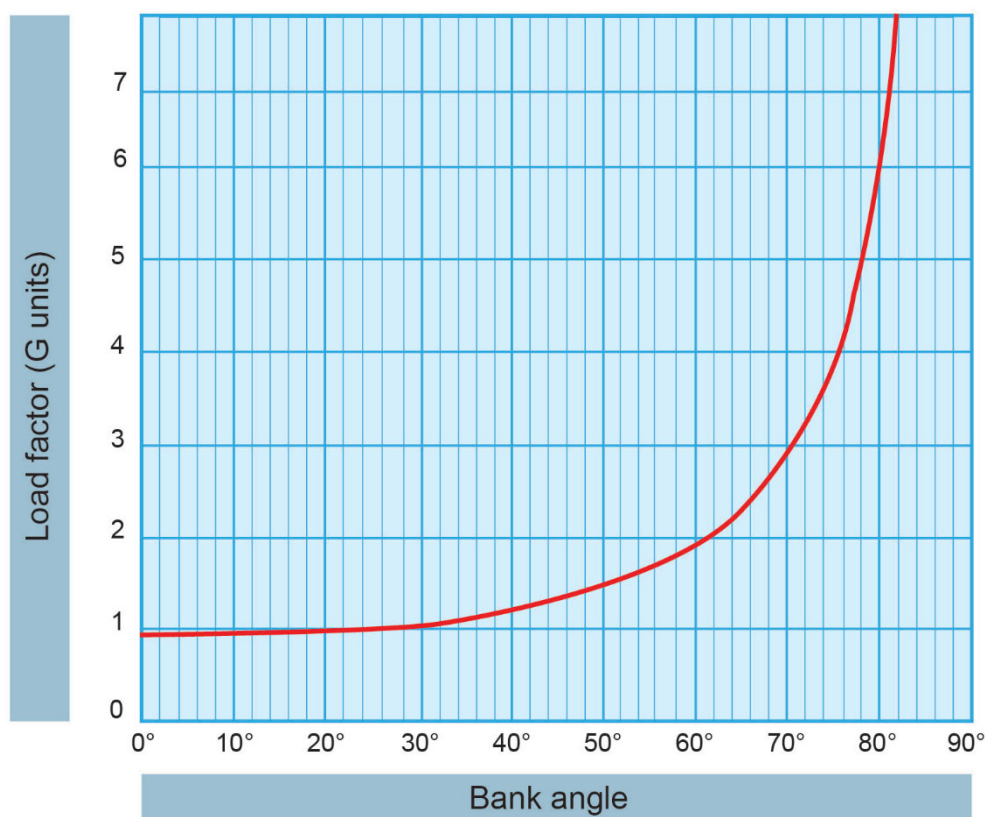
Page 39, Subunit 1.6, Items 3.b.1)-2): These edits clarify the explanation of how Bernoulli's principle produces lift.

- 1) This principle is applicable to an airplane wing because it is designed and constructed with a curve or camber. When air flows along the upper wing surface, it travels a greater distance in the same period of time (i.e., faster) than the airflow along the lower wing surface. with a curve or camber. Air flowing along the upper surface speeds up, and by Bernoulli's principle, its pressure drops below that of the slower-moving air beneath the wing.
- 2) ~~Therefore, the pressure above the wing is less than it is below the wing. This generates a lift force over the upper curved surface of the wing.~~ This pressure difference, lower above the wing and higher below, produces an upward lift force.

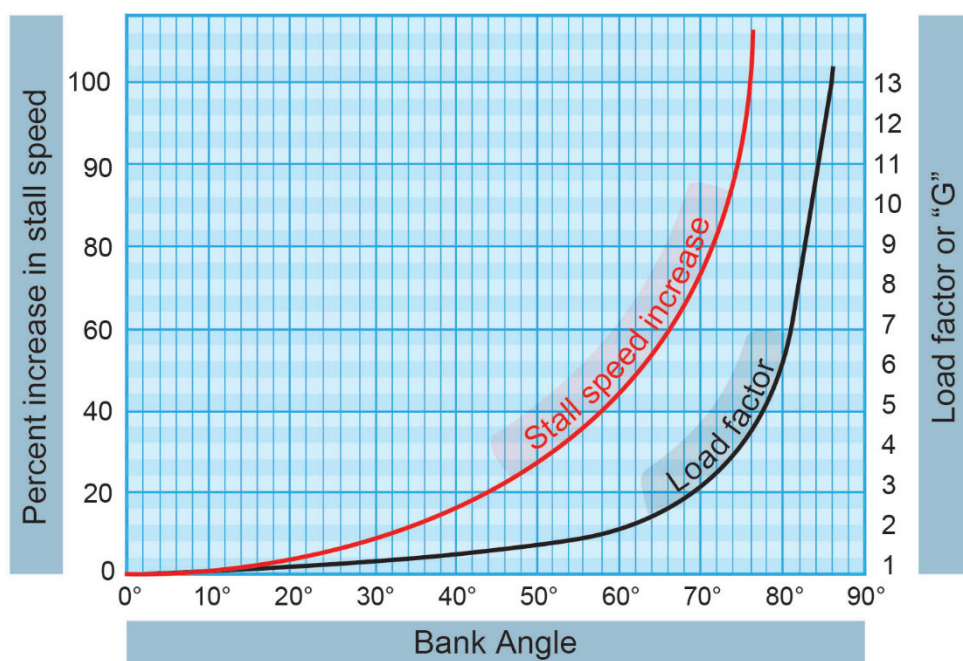
Page 40, Subunit 1.6, Item 3.d.: This edit clarifies the explanation of how lift is produced.

- d. ~~Thus, both the development of low pressure above the wing and the reaction to the force and direction of air being deflected from the wing's lower surface contribute to the total lift, as shown below.~~ Lift is the result of both effects acting together: the lower pressure above the wing and the downward deflection of air from the wing's surfaces. Both contribute to total lift, as shown below.

Page 66, Subunit 1.12, Item 3.b.: The labels on the figure's x-axis were not aligned with the gridlines. The corrected figure is shown below.



Page 67, Subunit 1.12, Item 4.b.: The labels on the figure's x-axis were not aligned with the gridlines. The corrected figure is shown below.



Study Unit 4 – Federal Aviation Regulations

Page 234, Subunit 4.2, Item 26.: The definition of “light-sport aircraft” was removed because it is no longer used in 14 CFR Part 1. Subsequent definitions have been renumbered accordingly.

Page 245, Subunit 4.6, 61.5, Item 2.c.: These edits update the aircraft categories in which an instrument rating is issued.

61.5 Certificates and Ratings Issued under this Part

[. . .]

c. Instrument rating

- 1) ~~Private~~ [Airplane](#)
- 2) ~~Commercial~~ [Helicopter](#)
- 3) ~~Flight instructor~~ [Powered-lift](#)

Page 247, Subunit 4.6, 61.19, Item 3.: These edits reflect that a flight instructor certificate is now issued without an expiration date.

61.19 Duration of Pilot and Instructor Certificates and Privileges

[. . .]

3. A flight instructor certificate is ~~valid only while you have a current pilot certificate; the flight instructor certificate expires at the end of 24 calendar months after it was last issued, renewed, or reinstated.~~ [issued without an expiration date.](#)
 - a. [The instructor may exercise privileges only while holding a current pilot certificate and having established recent experience in accordance with 14 CFR 61.197.](#)

Page 258, Subunit 4.6, 61.65, Item 5.: These edits update the flight training that may be credited toward a certificate.

61.65 Instrument Rating Requirements

[. . .]

5. If the instrument training was provided by an authorized instructor in a full flight simulator or flight training device, a maximum of 30 hr. may be credited if the training was completed in accordance with Part 142, or a maximum of 20 hr. if it was not completed under Part 142.
 - a. ~~A maximum of 20 hr. may be logged if the training was conducted under Part 61.~~ 10 hr. of instrument time in a basic aviation training device (ATD), or 20 hr. in an advanced ATD, may also be credited.
 - b. ~~A maximum of 30 hr. may be logged if the training was conducted under Part 142.~~ Except for instrument time completed under Part 142, no more than 20 hr. may be credited in total across all full flight simulators, flight training devices, and aviation training devices combined.

Page 259, Subunit 4.6, 61.83, Item 1.b.: These edits align the English language requirement with current FAA wording.

61.83 Eligibility Requirements for Student Pilots

1. To be eligible for a student pilot's certificate, you must
 - a. Be at least 16 years old.
 - b. Be able to read, speak, write, and ~~converse fluently in~~ understand English, or you will have limitations placed on the certificate as necessary for safety.

Page 262, Subunit 4.6, 61.96, Item 2.c.: This edit updates the certificate required to exercise recreational pilot privileges.

61.96 Applicability and Eligibility Requirements: General

[. . .]

- c. ~~Hold at least a valid third-class medical certificate unless operating under the privileges of 14 CFR 61.23(c)(3).~~ either a student pilot certificate or a sport pilot certificate.

Page 264, Subunit 4.6, 61.101, Item 4.a.: This edit adds the exception for aircraft certificated in the rotorcraft category.

61.101 Recreational Pilot Privileges and Limitations

[. . .]

4. As a recreational pilot, you may NOT act as pilot in command of an aircraft when
 - a. It is certificated for more than four occupants, with more than one powerplant, with a powerplant of more than 180 HP, or with retractable landing gear (except aircraft certificated in the rotorcraft category).

Page 265, Subunit 4.6, 61.103, Item 1.b.: These edits align the English language requirement with current FAA wording.

61.103 Eligibility Requirements: General

1. To be eligible for a student pilot's certificate, you must
 - a. Be at least 17 years of age.
 - b. Be able to read, speak, write, and ~~converse fluently in~~ understand English, or you will have limitations placed on the certificate as necessary for safety.

Page 268, Subunit 4.6, 61.113, Item 7.: These edits update the description of BasicMed.

61.113 Private Pilot Privileges and Limitations: Pilot in Command

[. . .]

7. ~~On May 1, 2017, third-class medical reform, known as BasicMed, became effective. BasicMed serves as an alternative for pilots to establish medical eligibility without holding a traditional FAA medical certificate.~~
 - a. A private pilot may act as pilot in command of an aircraft without holding a medical certificate issued under Part 67 provided the pilot holds a valid U.S. driver's license, meets the requirements of 14 CFR 61.23(c)(3), and complies with this section and all of the following conditions and limitations:
 - 1) The aircraft is authorized to carry no more than ~~six~~ seven occupants, has a maximum takeoff weight of no more than ~~6,000~~ 12,500 lb., and is operated with no more than ~~five~~ six passengers on board.
 - 2) The flight, including each portion of the flight, is not carried out

Page 269, Subunit 4.6, 61.123, New item 1.c.: This edit adds the private pilot certificate requirement. Subsequent items have been relettered accordingly.

61.123 Eligibility Requirements: General

[. . .]

- c. Hold at least a private pilot certificate issued under this part.

Page 272, Subunit 4.6, 61.217, Item 1.: These edits reflect the current recent experience requirements for a ground instructor certificate.

61.217 Recent Experience Requirements

1. You may not perform the duties of a ground instructor unless, within the preceding 12 months, you have
 - a. ~~You have served for at least 3 months as a ground instructor.~~ Activity as a ground instructor.
 - b. ~~You have received an endorsement from an authorized ground or flight instructor certifying that you have demonstrated proficiency in the subject areas appropriate to your ground instructor certificate.~~ Activity as a flight instructor.
 - c. Completion of an approved FIRC with graduation certificate, or
 - d. An authorized-instructor endorsement of demonstrated knowledge.

Page 273, Subunit 4.6, 61.303, Section title and Item 1.: This edit reflects the updates to 14 CFR 61.303.

61.303 If I want to operate a light-sport aircraft, an aircraft that satisfies the limitations identified in Sec. 61.316, what operating limits and endorsement requirements in this subpart must I comply with?

1. Whether you hold a medical certificate, a U.S. driver's license or neither, and what certificate you hold (sport or recreational), will determine the category, and class ~~and type~~ of aircraft you are allowed to operate, with associated limitations.

Page 273, Subunit 4.6, 61.305, Item 1.: These edits add the minimum age for a glider or balloon and update the language requirement.

61.305 What are the age and language requirements for a sport pilot certificate?

1. You must be at least 17 years old (16 to operate a glider or balloon) and be able to read, speak, write, and understand the English language to be eligible to apply for a sport pilot certificate.

Page 273, Subunit 4.6, 61.309, Item 1.: These edits reflect the aeronautical knowledge requirements for a sport pilot certificate.

61.309 What aeronautical knowledge must I have to apply for a sport pilot certificate?

1. ~~With the exception of some ultralight pilots, you~~ You must receive and log ground training from an authorized instructor or complete a home-study course on specified aeronautical knowledge areas.

Page 273, Subunit 4.6, 61.311, Item 1.: These edits reflect the proficiency requirements for a sport pilot certificate.

61.311 What flight proficiency requirements must I meet to apply for a sport pilot certificate?

1. ~~With the exception of some ultralight pilots (as specified in 14 CFR 61.329), to~~ To apply for a sport pilot certificate, you must receive and log ground and flight training from an authorized instructor on the specified areas of operation relevant to your category and class of aircraft.

Page 273, Subunit 4.6, 61.313, Item 1.: These edits add the rotorcraft-helicopter aeronautical experience path and the flight simulation training device credit.

61.313 What aeronautical experience must I have to apply for a sport pilot certificate?

1. ~~With the exception of some ultralight pilots (as specified in 14 CFR 61.329), the~~ The category and class of aircraft for which you are applying for a sport pilot certificate will determine determines the aeronautical experience requirements you must meet. This includes a rotorcraft-helicopter path, available only for a helicopter certificated under 14 CFR 21.190 with the simplified flight controls designation, requiring 30 hr. Up to 2.5 hr. of FSTD/ATD credit is allowed.

Page 273, Subunit 4.6, 61.315, Item 1.: These edits reflect the privileges and limits for a sport pilot certificate.

61.315 What are the privileges and limits of my sport pilot certificate?

1. If you hold a sport pilot certificate, you may act as pilot in command of ~~a light-sport aircraft with limitations on the operating conditions you are allowed, such as airspace, altitude, airspeed limitations, etc.~~ an aircraft that meets 14 CFR 61.316 with operating condition limits, such as airspace, altitude, and visibility, the V_H endorsements (14 CFR 61.327), the retractable-gear/manual-pitch-propeller endorsement (14 CFR 61.331), and no aircraft requiring a type rating.

Page 273, Subunit 4.6, New 61.316: This update adds 14 CFR 61.316.

61.316 What aircraft can a sport pilot fly?

1. Since it was first certified, the aircraft must have a stall speed (V_{S1}) of 45 kt. CAS or less, 59 for airplanes; seats for no more than 2 people, 4 for airplanes; no pressurized cabin; if a gyroplane, a fixed-pitch two-blade teetering rotor; and, if a helicopter, simplified flight controls. Retractable gear or a manual controllable-pitch prop needs the 14 CFR 61.331 endorsement.

Page 274; Subunit 4.6; 61.321; Section title, Item 1., and New item 2.: These edits reflect the current requirements for obtaining category or class privileges.

61.321 How do I obtain privileges to operate an additional category or class of ~~light-sport~~ aircraft?

1. ~~If you hold a sport pilot certificate and seek to operate an additional category or class of light-sport aircraft, you are required to~~ For most categories and classes, privilege is added by a proficiency check and an endorsement from the instructor who provided the training or a proficiency check with a different instructor, an FAA-acceptable application, and that instructor's endorsement authorizing the new category and class.
 - a. ~~Receive an appropriate endorsement from the authorized instructor who conducted your previous sport pilot training,~~
 - b. ~~Complete a proficiency check with a different (authorized) instructor and receive an appropriate endorsement from this instructor,~~
 - c. ~~Complete an application form acceptable to the FAA and present this to the authorized instructor who did your proficiency check, and~~
 - d. ~~Receive a logbook endorsement from the instructor who conducted the proficiency check certifying you are proficient in the applicable areas of operation and that you are authorized for the additional category and class light-sport aircraft privilege.~~
2. For airplane single-engine land or sea or rotorcraft-helicopter, you must instead pass a practical test for that category and class [14 CFR 61.307(b)].

Page 274, Subunit 4.6, 61.325, Section title: These edits reflect the current section title.

61.325 How do I obtain privileges to operate a ~~light-sport~~an aircraft at an airport within, or in airspace within, Class B, C, and D airspace, or in other airspace with an airport having an operational control tower?

Page 274, Subunit 4.6, 61.327, Section title and Item 1.: These edits reflect the current V_H endorsement requirements.

61.327 Are there specific endorsements to operate a light-sport an aircraft based on V_H ?

1. ~~A sport pilot who wishes to operate an aircraft with a V_H greater than 87 knots CAS must receive and log appropriate ground and flight training from an authorized instructor and receive an appropriate logbook endorsement from that same instructor.~~ There are two endorsements, each requiring ground and flight training from an authorized instructor and a logbook endorsement: 14 CFR 61.327(a) for an airplane with a V_H of 87 kt. CAS or less or 14 CFR 61.327(b) for an aircraft with a V_H greater than 87 kt. CAS.

Page 274, Subunit 4.6, 61.329: This update adds 14 CFR 61.329.

61.329 How do I obtain privileges to operate an aircraft at night?

1. You must receive 3 hr. of night flight training in the category and class, including one night cross-country with a landing at an airport at least 25 NM away (except powered parachutes) and 10 night takeoffs and landings to a full stop; hold a Part 67 medical or meet 14 CFR 61.113(i); and receive a night proficiency endorsement.

Page 274, Subunit 4.6, 61.331: This update adds 14 CFR 61.331.

61.331 How do I obtain privileges to operate an aircraft with retractable landing gear or an airplane with a manual controllable pitch propeller?

1. You must either satisfy 14 CFR 61.31(e) or receive ground and flight training and an instructor endorsement in an aircraft with that feature.

Page 279, Subunit 4.7, 67.409, Item 1.: These edits clarify the process for seeking reconsideration of a denied medical certificate.

67.409 Denial of Medical Certificate

1. A person who has been denied a medical certificate has 30 days to ~~appeal the denial~~ apply in writing to the Federal Air Surgeon in ~~Oklahoma City~~ for reconsideration.

Page 284, Subunit 4.8, 91.113, Item 1.: These edits reflect the current right-of-way rules for aircraft of different categories.

91.113 Right-of-Way Rules: Except Water Operations

1. Converging. When aircraft of the same category are converging at approximately the same altitude (except head-on), the aircraft to the right has the right-of-way. When aircraft are of different categories, the order of right-of-way is
 - a. ~~Balloons, gliders, and airships have the right of way over an airplane.~~ A balloon over any other category;
 - b. ~~Aircraft towing or refueling other aircraft have the right of way over all other engine-driven aircraft.~~ A glider over powered aircraft;
 - c. An airship over all other powered aircraft, except an aircraft towing or refueling; and
 - d. An aircraft towing or refueling over all other powered aircraft.

Page 301, Subunit 4.8, 91.213, Item 1.b.: These edits update the document authorizing operation with inoperative instruments and equipment.

91.213 Inoperative Instruments and Equipment

[. . .]

- b. The aircraft has within it a letter of authorization, issued by the FAA FSDO in the area where the operator is based, authorizing operation of the aircraft under the MEL. The MEL and authorization letter constitute ~~an STC (supplemental type certificate) for a joint document authorizing operation of~~ the aircraft under 14 CFR 91.213.

Page 316, Subunit 4.10, C – Aircraft, New item 22. and Item 23.: These edits add 14 CFR Part 22 and update Part 23 to reflect the performance-based certification standards.

C -- AIRCRAFT

22. Design, Production, and Airworthiness Requirements for Non-Type Certificated Aircraft -- establishes performance-based certification standards for light-sport and non-type-certificated aircraft. It also transitions these aircraft out of Part 21 to enable broader designs, including heavier models and electric propulsion.
23. ~~Airworthiness Standards: Normal, Utility, Acrobatic, and Commuter Category Airplanes -- prescribes~~ establishes performance-based safety and airworthiness standards for the ~~issue of type certificates and changes to those certificates for airplanes in the normal, utility, acrobatic, and commuter categories~~ small, type-certificated normal category airplanes. It replaces old, rigid weight classes with a flexible safety matrix based on passenger capacity and cruise speed.

Study Unit 9 – Navigation: Charts, Publications, Flight Computers

Page 481, Subunit 9.7, Item 3.b.: This edit updates the source for NOTAM information to the FAA's cloud-based NOTAM Management Service.

- b. ~~The FAA NOTAM search page provides information critical to safe aircraft operation and can be accessed at <https://notams.aim.faa.gov/notamSearch/nsapp.html#/>.~~ cloud-based NOTAM Management Service (NMS) is the single authoritative source, and all NMS information and access is available at <https://nms.aim.faa.gov/>.

Study Unit 10 – Navigation Systems

Page 524, Subunit 10.2, Item 5.d.3): This edit updates the heading change required to return to the desired radial and adds the resulting heading.

- 3) To return to the desired radial, the airplane heading must be altered ~~20°~~30° to the right to a heading of 020°. As the airplane returns to the desired track, the CDI needle will slowly return to center (Point 3).

Appendix A – Your Flight Review

Page 567: This edit clarifies the interval at which a flight review is required.

14 CFR 61.56 requires every pilot to successfully complete a flight review every ~~2 years~~ 24 calendar months. This flight review must consist of a minimum of 1 hr. of ground training, including a review of the current operating and flight rules of 14 CFR Part 91, and 1 hr. of flight training on any maneuvers and procedures that the CFI giving the review feels are necessary for you to demonstrate that you can safely act as a certified pilot. The flight review may be given by any appropriately rated CFI. In addition, the FAA (and your authors) recommends that you maintain some sort of personal currency program.

Page 568, Personal Currency Program, Item 2.c.2)-3): These edits update the credits required in the Advanced and Master Phases.

2) Advanced Phase

- a) 1 required knowledge credit
- b) 2 elective knowledge credits
- c) 1 required flight credit
- d) 2 elective ~~knowledge~~ flight credits

3) Master Phase

- a) 1 required knowledge credit
- b) 2 elective knowledge credits
- c) 1 required flight credit
- d) 2 elective ~~knowledge~~ flight credits

Page 573, Item 3. endorsement box: This edit to the flight review endorsement reflects the removal of expiration dates for flight instructor certificates.

Date	Signature	CFI No.	~~Expiration Date~~ <u>RE Date</u>
------	-----------	---------	---

Appendix B – Instrument Proficiency Check

Page 575, Item 3. endorsement box: This edit to the instrument proficiency check endorsement reflects the removal of expiration dates for flight instructor certificates.

Date	Signature	CFI No.	~~Expiration Date~~ <u>RE Date</u>
------	-----------	---------	---

Page 577, Instrument Proficiency Check Plan and Checklist: The “Expiration Date” section was changed to “Recent Experience End Date” to reflect the removal of expiration dates for flight instructor certificates.

Appendix C – Sport Pilot Addendum

Pages 579-589: This appendix was substantially rewritten to reflect the FAA's MOSAIC rule. Because nearly the entire appendix changed, the current text is reproduced in full, without change indications.

APPENDIX C

SPORT PILOT ADDENDUM

<i>Introduction and Definitions</i>	579
<i>Certification Procedures for Products</i>	581
<i>Light-Sport Category Aircraft Maintenance, Preventive Maintenance, Rebuilding, and Alteration</i>	583
<i>Sport Pilot Certificates</i>	584
<i>Flight Instructor Certificates with a Sport Pilot Rating</i>	589

The purpose of this appendix is to explain light-sport category aircraft and sport pilot certification.

INTRODUCTION AND DEFINITIONS

1. Introduction

- a. Sport pilot certification requirements are found in 14 CFR Part 61 Subpart J, as amended by the MOSAIC rule.
- b. Two separate factors determine what a sport pilot may operate:
 - 1) Aircraft certification defines light-sport category aircraft by **performance and design standards** rather than a fixed weight limit, which allows a broader range of aircraft.
 - 2) Pilot operating privileges are set by the **performance and design limits in 14 CFR 61.316**.

NOTE: An aircraft may qualify as a light-sport category aircraft without being one a sport pilot may operate, so both factors must be considered.

- c. MOSAIC expands the range of aircraft a sport pilot may operate, along with several additional privileges and aircraft capabilities that require **specific training and a logbook endorsement**. The sections that follow address **sport pilot privileges and limits, eligible aircraft, maintenance and the repairman certificate**, and the **simplified flight controls designation**.

2. Definitions

- a. **Consensus standard** means an industry-developed standard, accepted by the FAA, that is used to show an aircraft meets applicable design, production, and airworthiness requirements. Rather than the Administrator prescribing detailed requirements for each aircraft, the standard provides the benchmark a manufacturer designs, builds, and tests against. A single consensus standard may address the full life cycle, from design through continued airworthiness, including
 - 1) Aircraft design and performance,
 - 2) Required equipment,
 - 3) Manufacturer quality assurance systems,
 - 4) Production acceptance test procedures,
 - 5) Operating instructions,
 - 6) Maintenance and inspection procedures,
 - 7) Identification and recording of major repairs and major alterations, and
 - 8) Continued airworthiness.

- b. **Light-sport category aircraft** earn a special airworthiness certificate by meeting FAA-accepted consensus standards rather than a fixed weight limit (14 CFR 21.190). Because eligibility is standards-based, the category includes the following:
- 1) **Airplanes** and gliders
 - 2) **Rotorcraft** (helicopters and gyroplanes)
 - 3) **Powered parachutes** (flexible wing that inflates in motion) and **weight-shift-control** aircraft (tricycles steered by shifting weight against a pivoting wing)
 - 4) **Lighter-than-air** aircraft (airships and balloons)
 - 5) **Powered-lift** aircraft

NOTE: Unmanned aircraft are excluded.

- c. **Simplified flight controls** is a manufacturer designation (14 CFR 22.180) for an aircraft that automatically manages the flight path and power and prevents loss of control under likely conditions, regardless of pilot input.
- 1) A pilot must complete model-specific training and hold a logbook endorsement (14 CFR 61.31) before acting as PIC of an aircraft with this designation; see item 2.f.10) on page 587.
 - 2) An instructor must hold the same model-specific endorsement before providing flight training in such an aircraft; see items 3.d.5) and 4.b. on page 589.

CERTIFICATION PROCEDURES FOR PRODUCTS

1. Types of Airworthiness Certificates

- a. Standard airworthiness certificates (14 CFR 21.175) are issued for aircraft type certificated in the normal, utility, acrobatic, commuter, or transport category.
- b. Special airworthiness certificates cover aircraft outside that standard path:
 - 1) **Light-sport** category (14 CFR 21.190 and 22.100) for aircraft certificated in the light-sport category
 - 2) **Primary** category (14 CFR 21.184) for simple-design aircraft produced under a production approval or assembled as a kit
 - 3) **Restricted** category (14 CFR 21.185) for aircraft limited to special purpose operations such as agricultural, aerial survey, or patrol
 - 4) **Limited** category (14 CFR 21.189) for former military aircraft converted to civilian use
 - 5) **Provisional airworthiness** (14 CFR 21.221 and 21.223) for an aircraft that has a provisional type certificate, issued mainly to manufacturers
 - 6) **Special flight permit** (ferry permit) (14 CFR 21.197) to fly an aircraft that does not currently meet airworthiness requirements to a place where it can be brought into compliance
 - 7) **Experimental certificate** (14 CFR 21.191) for purposes such as amateur-built aircraft, research and development, exhibition, and the operation of kit-built and former light-sport category aircraft

2. Special Airworthiness Certificates in the Light-Sport Category

- a. The certificate stays in effect as long as the aircraft continues to meet the light-sport category requirements, is altered only as approved, and remains in a condition for safe operation (14 CFR 21.190).
- b. To apply, the applicant provides the FAA with
 - 1) The manufacturer's statement of compliance;
 - 2) The Pilot's Operating Handbook (POH), which must include
 - a) Operating instructions and limitations,
 - b) A flight training supplement, and
 - c) Any approved aerial work operations and any towing instructions; and
 - 3) The maintenance and inspection program for continued safe operation.
- c. The aircraft must not previously have held a standard, primary, restricted, limited, or provisional airworthiness certificate or a foreign equivalent.

d. Manufacturer's Statement of Compliance

- 1) Among its requirements are that the statement must
 - a) Identify the aircraft by make, model, serial number, class, and date of manufacture;
 - b) State whether the aircraft has the simplified flight controls designation (14 CFR 22.180);
 - c) Specify the consensus standards used and state that the aircraft meets the eligibility, design, production, and airworthiness requirements of 14 CFR Part 22;
 - d) State that the aircraft conforms to the manufacturer's design data under its quality assurance system;
 - e) State that the manufacturer will maintain a continued operational safety program, including monitoring in-service issues, issuing safety directives, and notifying the FAA and owners; and
 - f) State that, if the FAA requests, the manufacturer will provide access to its facilities and data.
- 2) For an aircraft manufactured outside the U.S., the applicant must also show that the aircraft was produced in a country with an airworthiness agreement with the U.S. and is eligible for certification there.

3. Experimental Certificates for Kit-Built and Former Light-Sport Category Aircraft

- a. An experimental certificate (14 CFR 21.191) is issued for operating aircraft for purposes including
 - 1) Amateur-built operations,
 - 2) Exhibition and air-racing,
 - 3) Research and development, and
 - 4) The operation of kit-built and former light-sport category aircraft.

NOTE: For amateur-built, exhibition, air-racing, light-sport, light-sport category kit-built, and former light-sport category aircraft, the duration of the experimental certificate is unlimited unless the FAA establishes a specific period for good cause (14 CFR 21.181).
- b. A light-sport category kit-built aircraft (14 CFR 21.191) is assembled from a kit, of a type already certificated under 14 CFR 21.190, following the manufacturer's assembly instructions that meet an FAA-accepted consensus standard.
- c. A former light-sport category aircraft (14 CFR 21.191) is an aircraft that previously held a special airworthiness certificate in the light-sport category under 14 CFR 21.190.

LIGHT-SPORT CATEGORY AIRCRAFT MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND ALTERATION

1. Who may perform maintenance?

- a. The holder of at least a sport pilot certificate may perform preventive maintenance on an aircraft they own or operate that holds a special airworthiness certificate in the light-sport category (14 CFR Part 43).
- b. Privileges apply only to aircraft certificated in the light-sport category.
 - 1) A sport pilot may **not** use them on a standard-category aircraft.
 - 2) To perform maintenance **beyond** preventive maintenance, a person may hold a **repairman certificate (light-sport)**, which carries one or both of two ratings:
 - a) An inspection rating allows the holder to perform the annual condition inspection on an aircraft they own holding an experimental certificate under 14 CFR 21.191, including an amateur-built aircraft in the **category and class** for which they trained.
 - i) The inspection rating is earned through a 16-hour FAA-accepted training course (14 CFR 65.107 and 65.109).
 - b) The maintenance rating allows the holder to approve a light-sport category aircraft for return to service (RTS) after maintenance, preventive maintenance, or alteration (including the annual condition and 100-hour inspections), and to perform the annual condition inspection on experimental aircraft under 14 CFR 21.191, in the **category and class** for which they are trained. Ownership is not a requirement.
 - i) The maintenance rating is earned through an FAA-accepted course aligned with the Mechanic ACS. There is no fixed hour requirement. (14 CFR 65.107 and 65.109)
 - 3) The annual condition inspection may also be performed by an appropriately rated mechanic or repair station.
 - a) An inspection authorization (IA) is not required to sign off on a condition inspection.
- c. Return to Service
 - 1) A repairman (light-sport) with a maintenance rating may approve a light-sport category aircraft for RTS but
 - a) **Not for** major repair or major alteration on a product produced under an FAA approval
 - b) **Not for** any work the repairman has not previously performed satisfactorily
 - 2) A major repair requires additional acceptable training (14 CFR 65.109).
 - 3) A sport pilot may approve an aircraft they own or operate for RTS after performing the **preventive maintenance** under 14 CFR Part 43.

SPORT PILOT CERTIFICATES

1. General

- a. A sport pilot certificate is issued without category or class ratings. Category and class privileges are endorsed in the pilot's logbook, which the pilot must carry, along with any other required endorsements, on all flights.
- b. No medical certificate is required to operate a glider or balloon. This applies to a student pilot seeking a sport pilot certificate, a sport pilot, and a flight instructor with a sport pilot rating exercising glider or balloon privileges.
- c. A sport pilot may use a current and valid U.S. driver's license in place of a medical certificate when exercising the privileges of
 - 1) A student pilot certificate while seeking sport pilot privileges, or a sport pilot certificate, in an aircraft other than a glider or balloon
 - 2) A flight instructor certificate with a sport pilot rating, while acting as pilot in command or required flight crewmember, in an aircraft other than a glider or balloon
- d. A pilot using a U.S. driver's license in place of a medical certificate must
 - 1) Comply with each restriction and limitation imposed on that person's U.S. driver's license and any judicial or administrative order applying to the operation of a motor vehicle;
 - 2) Have been found eligible for at least a third-class medical certificate at the time of their most recent application (if they have ever applied);
 - 3) Not have had their most recently issued medical certificate suspended or revoked or their most recent special issuance authorization withdrawn; and
 - 4) Not know or have reason to know of any medical condition that would make them unable to operate an aircraft in a safe manner.

2. Becoming a Sport Pilot

- a. **Age and language:** To be eligible for a sport pilot certificate, you must (14 CFR 61.305)
 - 1) Be at least 17 years old or 16 to operate a glider or balloon and
 - 2) Be able to read, speak, write, and understand English. If a medical condition prevents this, the FAA may place limits on your certificate as needed for safe operation.
- b. **Tests:** To obtain a sport pilot certificate, you must pass two tests (14 CFR 61.307). Before each test, an authorized instructor must endorse your logbook certifying you are prepared.
 - 1) A knowledge test on the aeronautical knowledge areas listed in 14 CFR 61.309
 - 2) A practical test on the areas of operation in 14 CFR 61.309 and 14 CFR 61.311
- c. **Practical test for airplane and helicopter:** If you hold a sport pilot certificate or higher and seek to operate an airplane (single-engine) or a rotorcraft-helicopter meeting the 14 CFR 61.316 limits, you must pass a practical test for that category and class (14 CFR 61.307).
 - 1) Other category and class privileges are added by proficiency check.
- d. **Flight proficiency** requirements for a sport pilot certificate (14 CFR 61.311):
 - 1) To apply for a sport pilot certificate, you must receive and log ground and flight training from an authorized instructor on the following areas of operation, as appropriate to the category and class you seek (airplane single-engine land or sea, glider, gyroplane, helicopter, airship, balloon, powered parachute land or sea, and weight-shift-control aircraft land or sea):
 - a) Preflight preparation
 - b) Preflight procedures
 - c) Airport, seaplane base, and gliderport operations, as applicable
 - d) Takeoffs (or launches), landings, and go-arounds
 - e) Performance maneuvers and, for gliders, performance speeds
 - f) Ground reference maneuvers (not applicable to gliders and balloons)
 - g) Soaring techniques (gliders only)
 - h) Navigation
 - i) Slow flight (not applicable to lighter-than-air aircraft and powered parachutes)
 - j) Stalls (not applicable to lighter-than-air aircraft, gyroplanes, helicopters, and powered parachutes)
 - k) Emergency operations
 - l) Post-flight procedures

- e. **Aeronautical experience** (14 CFR 61.313) here refers to the flight time that must be logged depending on the category and class you seek. Each value is a minimum.

Category/Class	Total Time	Dual	Solo/ PIC Time	XC Training	Solo XC	Full-Stop T&L	Practical Test Prep*
Airplane (SEL/SES)	20 hr.	15 hr.	5 hr. solo	2 hr.	75 NM total, 2+ points, 1 leg 25 NM	10	2 hr.
Gyroplane	20 hr.	15 hr.	5 hr. solo	2 hr.	50 NM total, 2+ points, 1 leg 25 NM	10	2 hr.
Helicopter (SFC-designated)	30 hr.	15 hr.	5 hr. solo	2 hr.	50 NM total, 2+ points, 1 leg 25 NM	10	2 hr.
Weight-shift- control	20 hr.	15 hr.	5 hr. solo	2 hr.	50 NM total, 2+ points, 1 leg 25 NM	10	2 hr.
Powered parachute	12 hr.	10 hr.	2 hr. solo	1 hr.	Landing at a different airport, 1 leg 10 NM	20 dual + 10 solo	1 hr.
Airship	20 hr.	15 hr.	3 hr. PIC w/ instructor	2 hr.	25 NM between takeoff and landing	3	2 hr.
Balloon	7 hr.	3 flights	1 flight PIC w/ instructor	2 hr.	N/A	N/A	1 hr.
Glider (<20 hr. heavier-than-air)	10 hr.	10 flights	2 hr. solo	N/A	N/A	5 solo launches and landings	3 flights
Glider (20+ hr. heavier-than-air)	3 hr.	5 flights	1 hr. solo	N/A	N/A	3 solo launches and landings	3 flights

* Practical test prep is dual training on the 14 CFR 61.311 areas of operation within the 2 calendar months before the practical test.

NOTE:

- 1) Solo and training hours are in the areas of operation listed in 14 CFR 61.311.
- 2) Up to 2.5 hours of training in a qualified flight simulation or aviation training device, representing the appropriate category and class and given by an authorized instructor, may count toward these requirements [14 CFR 61.313(b)].

- f. **Sport pilot limits** (14 CFR 61.315) mean a sport pilot **may not act** as pilot in command in the following circumstances:
- 1) When carrying a passenger or property for compensation or hire or in furtherance of a business
 - 2) When carrying more than one passenger
 - 3) At night, unless the requirements of 14 CFR 61.329 are met
 - 4) In Class A airspace
 - 5) In Class B, C, or D airspace, at an airport in such airspace, or at an airport with an operational control tower, unless the requirements of 14 CFR 61.325 are met
 - 6) Above 10,000 ft. MSL or 2,000 ft. AGL, whichever is higher
 - 7) When flight or surface visibility is less than 3 SM
 - 8) Without visual reference to the surface
 - 9) Of an aircraft with a V_H (max. speed, level flight, max. continuous power) above 87 KCAS without the 14 CFR 61.327(b) endorsement, or at or below 87 KCAS without the 14 CFR 61.327(a) endorsement (unless PIC time logged in such an airplane before April 2, 2010)
 - 10) Of an aircraft with the simplified flight controls designation, without the model-specific training and endorsement required by 14 CFR 61.31
 - 11) Of an aircraft with retractable landing gear or an airplane with a manual controllable-pitch propeller without the 14 CFR 61.331 endorsement
 - 12) Of an aircraft requiring a type rating or more than one pilot
 - 13) While towing any object
 - 14) Outside the U.S. without that country's prior authorization
 - 15) To demonstrate the aircraft to a prospective buyer as a salesperson or in a charitable passenger airlift
 - 16) Contrary to any limitation on the airworthiness certificate, the pilot's certificate or medical certificate, an instructor's endorsement, or the U.S. driver's license used to meet a medical requirement

- g. Additional privilege limits in 14 CFR 61.316 include the following:
- 1) A maximum stalling speed or minimum steady flight speed without the use of lift-enhancing devices (V_{S1}) of not more than 45 KCAS, except for airplanes, which must have a V_{S1} speed of not more than 59 KCAS at the aircraft's maximum certificated takeoff weight and most critical center of gravity.
 - 2) The aircraft's cabin, if equipped, must be non-pressurized.
 - 3) For gyroplanes, a fixed-pitch, semi-rigid, teetering, two-blade rotor system.
 - 4) For powered aircraft other than balloons or airships, the loss of partial power would not adversely affect directional control of the aircraft and the aircraft design must allow the pilot the capability of establishing a controlled descent in the event of a partial or total powerplant failure.
 - 5) Helicopters must be certificated with the simplified flight controls designation.
 - 6) For gliders, fixed or retractable landing gear.
 - 7) A maximum seating capacity of two persons, except for airplanes, which may have a maximum seating capacity of four persons.
 - 8) For powered aircraft other than gliders, fixed landing gear.
 - 9) For powered aircraft other than gliders, a fixed, ground-adjustable, or automated controllable pitch propeller.
- h. When **operating in controlled airspace** (14 CFR 61.325) of Class B, C, or D, at an airport in such airspace, or at an airport with an operational control tower, a sport pilot must first receive and log ground and flight training and an instructor endorsement certifying proficiency in
- 1) The use of radios, communications, navigation systems and facilities, and radar services;
 - 2) Operations at a towered airport, including three takeoffs and landings to a full stop in the traffic pattern; and
 - 3) The applicable 14 CFR Part 91 flight rules and ATC clearances for Class B, C, and D airspace.
- i. **Cross-country flight time** (14 CFR 61.1) for sport pilot experience requirements (except powered parachute) means a flight to a landing point more than 25 NM in a straight line from departure, using pilotage, dead reckoning, and navigation aids or systems.
- j. A **single-seat aircraft practical test** may be taken if the examiner agrees and is positioned to observe and evaluate the applicant. A pilot who passes in a single-seat aircraft receives the limitation "no passenger carriage and flight in a single-seat light-sport aircraft only."

FLIGHT INSTRUCTOR CERTIFICATES WITH A SPORT PILOT RATING

1. General

- a. A flight instructor with a sport pilot rating must carry their logbook or other evidence of required endorsements on all flights when providing flight training (14 CFR 61.423).
- b. The certificate is issued without category and class ratings.
 - 1) Category and class privileges are recorded through the instructor's training and endorsements (14 CFR 61.417).

2. Privileges (14 CFR 61.413)

- a. A flight instructor with a sport pilot rating may provide the ground and flight training, endorsements, and proficiency checks needed for a person to earn or add sport pilot privileges and for related student pilot and flight review purposes.
- b. The instructor may receive compensation for providing this flight training.
 - 1) The instructor may not use these privileges for operations that would otherwise require an air carrier or operating certificate.

3. Limitations (14 CFR 61.415)

- a. The instructor may provide training only in a category and class for which they hold both the pilot privileges and the flight instructor privileges.
- b. When exercising sport pilot rating privileges, the instructor may carry only their trainee on board.
- c. The instructor may not conduct more than 8 hours of flight training in any 24-consecutive-hour period.
- d. The instructor may not provide training that requires a capability the instructor is not endorsed for, including
 - 1) Operations in controlled airspace (14 CFR 61.325)
 - 2) Higher- V_H airplanes (14 CFR 61.327)
 - 3) Retractable gear or a manual controllable-pitch propeller (14 CFR 61.331)
 - 4) Night (14 CFR 61.329)
 - 5) An aircraft with the simplified flight controls designation (14 CFR 61.31)

4. Adding a Category or Class (14 CFR 61.419)

- a. To provide training in an additional category or class, the instructor must meet the training, endorsement, and proficiency-check requirements for that category and class.
- b. To provide training in an aircraft with the simplified flight controls designation, the instructor must complete the model-specific training and endorsement of 14 CFR 61.31 before giving any flight training in that aircraft.

5. Ground Instructors

- a. A person who holds a basic ground instructor rating may provide
 - 1) Ground training in the knowledge areas required for a sport pilot, recreational pilot, or private pilot certificate or associated rating;
 - 2) Ground training required for a sport pilot, recreational pilot, or private pilot flight review; and
 - 3) A recommendation for the knowledge test for a sport pilot, recreational pilot, or private pilot certificate.