

Pilot Certification and Aircraft Registration for Non-Hobby Users of Small Unmanned Aircraft Systems (sUAS)

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In just a few years, small unmanned aerial systems (sUAS), or drones, have gone from being an expensive novelty usually associated with military applications to relatively affordable systems used for entertainment but that also have diverse applications in photography, mining, archaeology, law enforcement and rescue operations, real estate, and agriculture, to name just a few. Until recently, commercial use of sUAS in the U.S. has been limited due to restrictive and vague rules and regulations. This fact sheet will outline some of the considerations that a potential non-hobby (commercial) operator must consider before flying. If you would like to fly for fun or work, the Federal Aviation Administration (FAA) offers a good portal (https://www.faa.gov/uas/getting_started/) for "Getting Started" on topics such as pilot, aircraft, and location requirements, operating rules, example applications, and legal or regulatory basis.

Aircraft Registration

Whether you fly your aircraft for hobby or commercial applications, you must register your aircraft if



Example of sUAS registration number prominently displayed on the aircraft.

its take-off weight is more than 0.55 lbs or less than 55 lbs. The sUAS registration, which started on December 21, 2015, involves a simple online process (<https://registermyuas.faa.gov/>). To register, a user must be 13 years of age or older. Once you create an account and enter your information, you will immediately receive your aircraft registration number. The aircraft registration cost is currently \$5.

Remote Pilot Certification

In the U.S., flight regulations related to sUAS are overseen by the FAA. Legislation (FAA Modernization and Reform Act) that reauthorized the FAA in 2012 included a requirement for the FAA to develop a plan to integrate UAS into the national airspace by September 2015. Up to this

point, civil or commercial use of UAS was extremely limited. During this period overseen by the interim flight regulations, the FAA did grant, through a complex process, special use exemptions for both civilian and public users through either Certificate of Authorization (COA) or Section 333 Waivers. In 2016 a number of significant changes to rules and regulations for sUAS use in the U.S. were made for both educational and commercial users.

Educational Users

The FAA made significant changes in 2016 to the regulations that allow educational users to fly small unmanned aircraft systems (sUAS). On May 4 the FAA released a memorandum titled, “Educational Use of Unmanned Aircraft Systems,” that addresses flights for educational use (https://www.faa.gov/uas/resources/uas_regulations_policy/media/interpretation-educational-use-of-uas.pdf). The document was released to clarify the FAA’s position that “a person may operate an unmanned aircraft for hobby or recreation . . . at educational institutions and community-sponsored events.” When this interpretation applies, the operation would not require FAA authorization, but aircraft would fly in accordance with model aircraft rules (AC 91-57A: https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_91-57A_Ch_1.pdf). **This memorandum clearly does not apply if the primary purpose of the educational course is related to sUAS flight instruction or if the instructor’s participation in the student operation is extensive** (i.e., instructor participation must be *de minimis* for the memorandum to apply). The educational use memorandum is interpreted to include extension and classroom users and should be read and followed very carefully.

Commercial Users

A major advancement for commercial and public users in the U.S. was the issuance of the permanent flight regulations for commercial use of sUAS on August 29, 2016. Referred to as Part 107 (14 CFR part 107), these permanent regulations apply to a broad spectrum of commercial uses, including academic researchers using sUAS. For academic researchers, Part 107 provides a simpler and more

rational pathway compared to the alternative, a COA. It is important to stress that if producers, consultants, real estate agents, etc., are using a sUAS in any way for their business, then they must have Remote Pilot Certification, otherwise, they are out of compliance with FAA regulations. **Remember that the FAA considers a farmer’s use of a sUAS as a commercial use even when the aircraft is being used on their own farm.** Unlike the interim flight regulations, Part 107 does NOT require a Class 2 medical exam.

If you already hold a pilot certificate issued under 14 CFR part 61 and you have completed a flight review within the previous 24 months, you can receive Remote Pilot Certification if you complete a few simple steps. First, you need to complete a free online course, Part 107 Small Unmanned Aircraft Systems (small UAS) ALC-451, which is available at the FAA Safety Team website (<https://www.faasafety.gov/>). Next, you need to complete FAA Form 8710-13 (FAA Airman Certificate and/or Rating Application for a Remote Pilot Certificate: [https://www.faa.gov/documentLibrary/media/Form/FAA_Form_8710-13_\(10-16\).pdf](https://www.faa.gov/documentLibrary/media/Form/FAA_Form_8710-13_(10-16).pdf)) and get the form signed by a recognized authority (e.g., FAA certified flight instructor).

FAA Part 107 Exam

Test Preparation:

For those who have no prior exposure to the Private Pilot FAA Knowledge Test, preparing for the Remote Pilot Exam may seem like studying a foreign language. For those with no prior knowledge of this subject area, it will likely require at least 30 hours to prepare for the test. A number of vendors provide test preparation materials including sample test questions. Test preparation materials can vary from \$0 to \$300. Examples of test preparation materials include:

- FAA: https://www.faa.gov/uas/getting_started/fly_for_work_business/becoming_a_pilot/
- RemotePilot101.com: <https://remotepilot101.com/>
- King Schools: <http://www.kingschools.com/ground-school/drone-pilot/courses/written?sco=WB&scu=GAWPRSNL&gclid=CM2i1eTgztECFd61wAodFsMDzg>

- Aviation Supplies & Academics, Inc.:
<http://www.asa2fly.com/Remote-Pilot-UAS-C737.aspx>
- Drone Pilot Ground School:
<http://www.dronepilotgroundschool.com/enroll?coupon=ENROLL50&gclid=CMr-6JSEz9ECFUqewAod2EAEig>
- DroneU: <https://www.thedroneu.com/how-to-get-your-commercial-drone-license/?wlfrom=%2Fpart-107-test-prep%2F>
- Gleim Aviation: <http://www.gleim.com/aviation/drones/>
- Center for Innovations in Education:
<http://www.centerforinnovationineducation.org/part107.html?gclid=CLHu5sDq4NECFQyoaQodxT0IXA>

Taking the Test:

The cost of the exam is currently \$150, and testing locations can be found at https://www.faa.gov/training_testing/testing/media/test_centers.pdf. Most testing centers require making an appointment to take the test. For those that use the Computer Assisted Testing Service (CATS) registration, the proctor will simply pull all the information related to their registration and confirm it with the individual. The testing center will register you with the FAA, and this will require a photo ID. Once you register, the proctor will set you up in a testing cubicle. The test is taken using a computer terminal. Your testing cubicle will likely consist of a monitor, keyboard, mouse, blank paper tablet, pencil, and the Airman Knowledge Testing Supplement for Sport Pilot, Recreational Pilot, and Private Pilot (https://www.faa.gov/training_testing/testing/test_questions/media/sport_rec_private_akts.pdf). A significant number of the test questions utilize illustrations in the supplement book, but the same information can be viewed on the computer monitor using dropdown illustrations. You can bring your own simple calculator, but the online testing system provides a dropdown menu with a calculator.

Once the proctor logs you in, you will run through approximately eight sample questions that will help familiarize you with the testing format and 'help tabs/tools' at the bottom of the screen. One of the tabs



Example of a pilot certification testing station. The calculator was not provided by the testing center.

allows you to mark questions that you wish to review later before completing your exam. The test consists of 60 questions, but current exams have included three or four extra questions that are being evaluated by the FAA for future exams. Although the test taker cannot identify which are “evaluation” questions, answers to those questions do not impact your final score. You are allotted 2 hours to take the test. Once you have submitted your test, you will have the opportunity to see which questions you answered incorrectly (unless you got 100%). You can’t change your answers at this time, but you can see specifically which questions you got wrong. Once you complete the test review (optional), the proctor will complete the process that will immediately indicate your score. To pass, you must receive a grade of 70% or higher.

Post-Exam:

The testing center will print out a Computer Test Report including your Exam ID and Score. The form indicates to “please allow 24-48 hours for your examination results to upload,” but you can begin the next step which is to ‘login’ or ‘start a new registration’ at the Integrated Airman Certification and Rating Application (IACRA: <http://iacra.faa.gov/iacra/>). To be clear, you can initiate (register) an account in IACRA before taking the test; however, for a new registration, it is probably more logical to register after passing the Remote Pilot exam. Remote Pilot applicants must be a fairly “hot topic” as the main page of the IACRA website has a special instruction box simply for Remote Pilot Applicants.

After you complete the Start Application process (Application Type: pilot; Certifications: remote pilot), you will need to complete four sections (Personal Information; Supplementary Data; Basis of Issuance; Review and Submit). Once each section is complete, you save them. BEFORE you can Sign & Complete Application in the fourth section, you MUST read and 'sign' the Pilot's Bill of Rights. The IACRA application process should take about 15 minutes, and there is currently no fee. UAVCoach has a good video (scroll down until you see 'Using IACRA & Applying for Remote Pilot Certification': <http://uavcoach.com/drone-certification/#11>) walking you through the IACRA registration process.

If you do not already have a pilot (private, commercial) license, your application will need to be vetted by the Transportation Security Administration (TSA) as a part of the application process. If you complete the online application process, you should receive a temporary certificate within a few days. The FAA will mail you a permanent certificate within 6 to 8 weeks.

DISCLAIMER: No endorsement is implied or discrimination intended for firms or references included or excluded from this document. This fact sheet is for educational purposes only and not meant to provide legal or regulatory advice for the safe and legal operation of any small unmanned aircraft system. It is the responsibility of the sUAS user to read, understand, and follow all FAA regulations. Users are also subject to state laws in which they operate.

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