

What is a Drone?



Definitions:

Drone is a generic term for a remote-controlled pilotless aircraft or missile

The personally-owned drones are referred to by the FAA as "Small Unmanned Aircraft Systems"

The FAA abbreviates this as sUAS

They are also referred to as Unmanned Aerial Vehicles or "UAV."

For our discussion we will concentrate on drones that are personally-owned and weigh more than .55lbs, but less than 55lbs.

FAA Regulations

The FAA REQUIRES that all sUAS weighing more than .55lbs, but less than 55lbs be registered with the FAA.

This registration can be done at www.faa.gov/uas or <https://registermyuas.faa.gov>

There is a minimal registration fee

The registration is good for three years

The sUAS must be plainly labeled with the registration number

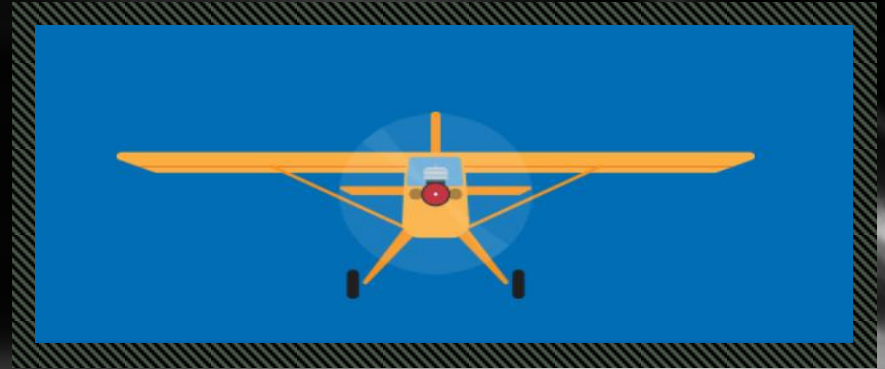
ALL persons operating a sUAS must have this FAA registration in their possession while operating the drone.

Drones that DO NOT require registration (examples):



Online UAS Registration

Applies to all small UAS over 0.55 and weighing less than 55 lbs. flown outside

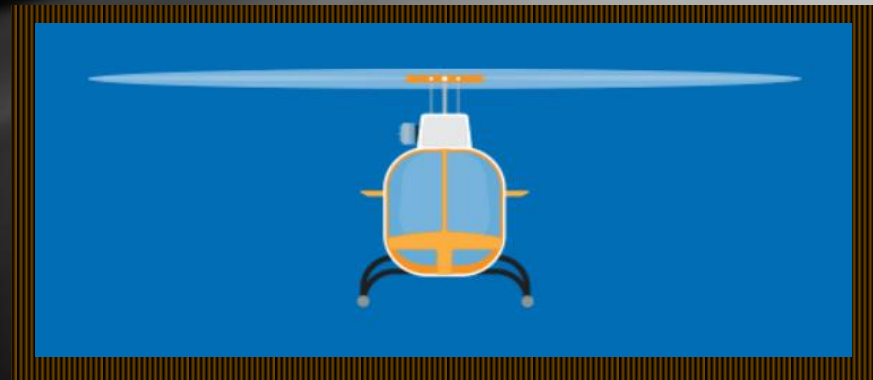


Owner must provide name, address, email

Non-recreational owners (includes Part 107 and Public COA) must provide make, model, and serial number (if available) of each sUAS



Register through FAA DroneZone



FAA DroneZone

FAADroneZone

Welcome to the FAADroneZone



Fly sUAS under Part 107

I need to register my small unmanned aircraft for recreational, commercial, governmental, or other purposes under **Part 107**. Each drone must be registered at a cost of \$5.00 and registration is valid for a period of 3 years. Also use this option to apply for a waiver/authorization, or reporting an accident under Part 107.

Register

Fly Model Aircraft under Section 336

I need to register my small unmanned aircraft to fly with an aero-modeling club and following all requirements of the **Special Rule for Model Aircraft**.

Register

Waivers & Authorizations

sUAS operators who want to fly outside the requirements of the Small UAS Rule (Part 107) may request a waiver and/or airspace authorization using the provided tools.

Applicants are encouraged to review the form instructions below and the list of regulations subject to waiver prior to submitting via these tools. Please provide all required information in order to facilitate evaluation of your request.

Review the following information before requesting a waiver and/or airspace authorization:

- Request to Operate in Controlled Airspace instructions (PDF)
- Waiver Application Instructions (PDF)

These tools should only be used to request waivers or airspace authorizations under Title 14 CFR Part 107; it is not for modelers or hobbyists flying in accordance with the Special Rule for Model Aircraft (P.L. 112-95, Section 336).

Manage Waivers/Authorizations

4
Total Waivers & Authorizations

1 Approved
1 Canceled
2 Under Review



Create Waiver/Authorization

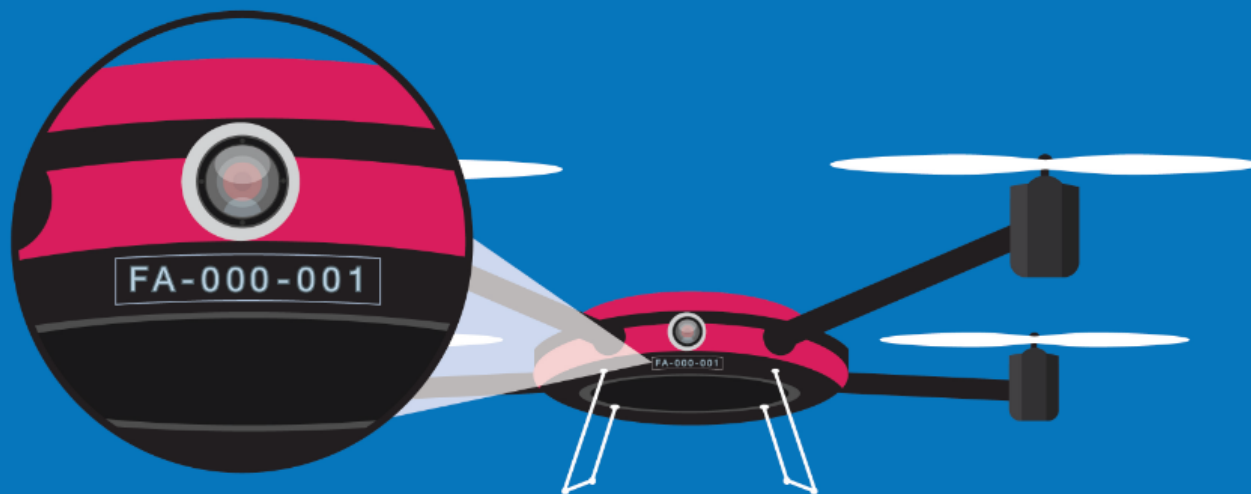
A one-stop-shop for small UAS needs:

- Registration
- Airspace Authorizations & Waivers
- Operational Waivers
- Accident Reporting

How to Label Your UAS

Registration #
FA-000-001

Find registration number
on the confirmation screen
& in your user profile.



Mark all aircraft with your registration number before you operate them. You can use:

FA-000-001

Engraving

FA-000-001

Permanent Label

FA-000-001

Permanent Marker



Number must be visible

(You can mark inside the battery compartment if it doesn't require a tool to open.)

Types of sUAS operation

All drone operations will fall into one of three categories:

1. Recreational Flyers
2. Civil/Commercial – referred to as “Part 107”
3. Public Use (Law Enforcement and other government operation)

For our purposes we will only address Hobby and Part 107 operations

Limited Recreational Operations Update

FAA Federal Register Notice published

<https://www.federalregister.gov/documents/2019/05/17/2019-10169/exception-for-limited-recreational-operations-of-unmanned-aircraft>

AC 91-57B

Both documents tell recreational flyers where and how they can fly until the FAA finishes implementing all the parts of 44809

Compliance stance: Helping, not hunting

Statutory Provisions

Fly strictly for recreational purposes.

Fly within the programming of a community-based organization's set of safety guidelines developed with the FAA.

Fly within visual line of sight of the person operating the aircraft or a visual observer co-located and in direct communication with operator.

Do not interfere with and give way to any manned aircraft.

In controlled airspace, obtain prior FAA authorization before operating and comply with all airspace restrictions and prohibitions.

In Class G airspace, do not fly higher than 400 feet above ground level and comply with all airspace restrictions and prohibitions.

Pass an aeronautical knowledge and safety test and maintain proof of test passage for the FAA or law enforcement upon request.

Register and mark the aircraft per part 48. Keep proof of registration for FAA or law enforcement upon request.

Big Picture: Until Further Notice

Where	How
<ul style="list-style-type: none">• Under 400 feet and in uncontrolled airspace• Charted fixed recreational flying Sites in controlled airspace• Udds-faa.opendata.arcgis.com	<ul style="list-style-type: none">• Aeromodeling organization safety guidelines (as long as they don't conflict with 44809) or;• General guidelines the FAA will post on the FAA.gov/UAS website.

FAA's General Safety Guidelines



Fly only for recreational purposes

Keep your unmanned aircraft within your visual line-of-sight or within the visual line of sight of a visual observer who is co-located and in direct communication with you

Do not fly above 400 feet in uncontrolled (Class G) airspace

Do not fly in controlled airspace without an FAA authorization

Follow all FAA airspace restrictions, including special security instructions and temporary flight restrictions

Never fly near other aircraft

Always give way to all other aircraft

Never fly over groups of people, public events, or stadiums full of people

Never fly near emergency response activities

Never fly under the influence of drugs or alcohol

Key Takeaways for You

In any encounter with a recreational flyer they should:

- Have proof of registration on hand
- Be able to say which set of safety guidelines they are following
- Be at or under 400 feet in class G airspace

In controlled airspace, they need to be flying at a fixed recreational flyer site listed at faa.gov/uas or charted at Udds-faa.opendata.arcgis.com

Use compliance philosophy, risk-based decision making, and seek to help first!



Civil/Commercial Operations:

Commonly called “Part 107” or “107” operation

Pilot Requirements:

1. Pilot must be at least 16 years of age
2. Pilot must pass an aeronautical knowledge test at an FAA-approved testing center
3. Pilot must pass vetting by the Transportation Safety Administration (TSA)
4. Pilot Certificate must be in the pilot’s possession while flying and presented to Law Enforcement upon demand

Aircraft Requirements:

1. Drone must weigh less than 55 pounds
2. Drone must be registered (registration must be in the pilot’s possession)

Civil/Commercial Operations:

Operating Rules:

1. May fly only on Class G airspace*
2. Must keep aircraft in visual line-of-sight*
3. Must fly under 400 feet*
4. Must fly at or below 100 mph*
5. Must yield right-of-way to manned aircraft*
6. Must NOT fly over people*
7. Must NOT fly from a moving vehicle*

* These rules are subject to waiver by the FAA. The pilot must have the waiver in his possession while flying

sUAS Registration Card Sample:



**Federal Aviation
Administration**

Small UAS Certificate of Registration

CERTIFICATE HOLDER: **FIRST LAST**

UAS CERTIFICATE NUMBER: **FA-333-339A**

ISSUED: **12/09/2015** EXPIRES: **12/09/2018**

For U.S. citizens, permanent residents, and certain non-citizen U.S. corporations, this document constitutes a Certificate of Registration. For all others, this document represents a recognition of ownership.

For all holders, for all operations other than as a model aircraft under sec. 336 of Pub. L. 112-95, additional safety authority from FAA and economic authority from DOT may be required.

Safety guidelines for flying your unmanned aircraft:

- Fly below 400 feet
- Never fly near other aircraft
- Keep your UAS within visual line of sight
- Keep away from emergency responders
- Never fly over stadiums, sports events or groups of people
- Never fly under the influence of drugs or alcohol
- Never fly within 5 miles of an airport without first contacting air traffic control and airport authorities

Remote Pilot Certificate (Part 107):

I UNITED STATES OF AMERICA XI
DEPARTMENT OF TRANSPORTATION • FEDERAL AVIATION ADMINISTRATION

IV NAME
XXXXXXXXXXXXXXXXXX

V ADDRESS XXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXX

VI NATIONALITY USA **SEX** **HEIGHT** **WEIGHT** **HAIR** **EYES**
IVa D.O.B. XXXXXXXXX **X** **XX** **XXX** **XXXXX** **XXXXX**

IX HAS BEEN FOUND TO BE PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF

II REMOTE PILOT
III CERTIFICATE NUMBER XXXXXXXXX
X DATE OF ISSUE XXXXXXXX

XIV 
VIII ADMINISTRATOR




U
A
S

FAA Waiver (Sample):

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION CERTIFICATE OF WAIVER OR AUTHORIZATION	
ISSUED TO	Aerial UAV Services LLC, Responsible Person: Ron Knox Waiver Number: 107W-2016-00630
ADDRESS -	634 Glenwood Drive Lafayette, CO 80026
This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.	
OPERATIONS AUTHORIZED	Night small unmanned aircraft system (sUAS) operations.
LIST OF WAIVED REGULATIONS BY SECTION AND TITLE	14 CFR § 107.29 Daylight operation
STANDARD PROVISIONS	
<ol style="list-style-type: none">1. A copy of the application made for this certificate shall be attached to and become a part hereof.2. This certificate shall be presented for inspection upon the request of any authorized representative of the Administrator of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.4. This certificate is not transferable.	
NOTE - This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.	
SPECIAL PROVISIONS	
Special Provisions Nos. 1 to 11, inclusive, are set forth on the attached pages.	
This Certificate of Waiver is effective from January 23, 2017 to January 31, 2021 and is subject to cancellation at any time upon notice by the Administrator or an authorized representative.	
BY DIRECTION OF THE ADMINISTRATOR JOSEPH V FAGAN JR Digitally signed by JOSEPH V FAGAN JR Date: 2017.01.23 06:04:16 -05'00' General Aviation and Commercial Division, AFS-800	

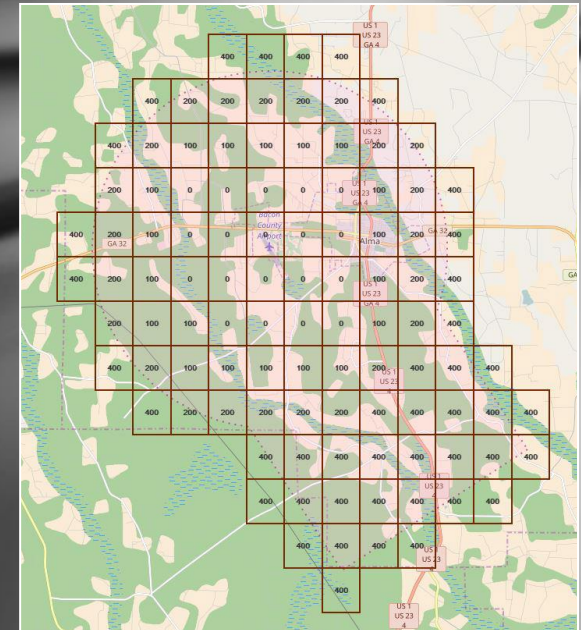
UAS Facility Maps

Depict maximum altitudes that FAA may grant controlled airspace access for Part 107 operations without additional safety analysis

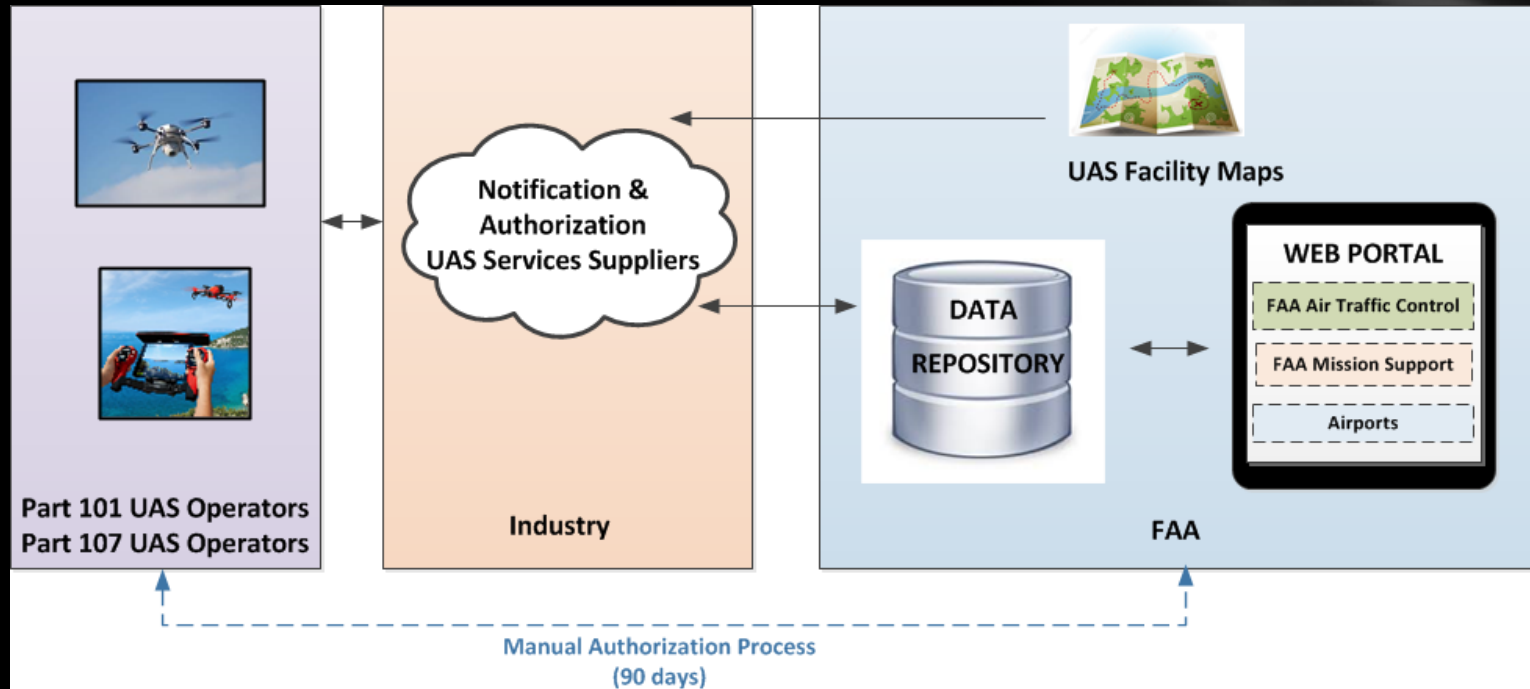
Maps do not authorize operations

- Job aid for airspace authorization requests
- Assists the FAA in streamlining authorization process

All maps are available on
FAA website



Low Altitude Authorization and Notification Capability (LAANC)



Goals

- Enable efficient notification and authorization services to small UAS operators
- Provide the data exchange framework for UAS traffic management (UTM)

FAA UAS Traffic Management



Suite of Capabilities:

- LAANC
- Remote ID
- Registration
- Dynamic
Airspace

UTM

Law Enforcement Response:



Basic Law Enforcement Response **D.R.O.N.E.**

Direct attention outward and upward, attempt to locate and identify individuals operating the drone. (Look at windows/balconies/roof tops).

Report incident to the FAA Regional Operations Center (ROC). Follow-up assistance can be obtained through FAA Law Enforcement Assistance Program special agents.

Observe the UAS and maintain visibility of the device, look for damage or injured individuals.
Note: Battery life is typically 20 to 30 minutes.

Notice features: Identify the type of device (fixed-wing/multi-rotor), its size, shape, color, payload (i.e., video equipment), and activity of device.

Execute appropriate police action: Maintain a safe environment for general public and first responders. Conduct a field interview and document ALL details of the event per the guidance provided by the FAA. www.faa.gov/uas/resources/law_enforcement/

Always follow agency policies – Take appropriate action based on the facts and circumstances of the incident and site/area-specific laws and rules. The FAA's enforcement action does NOT impact ANY enforcement action/s taken by law enforcement.

Local ordinances that may apply include, but are not limited to: Reckless endangerment, criminal mischief, voyeurism, inciting violence.

Reporting the incident to the FAA:



FAA Drone Incident Reporting

Document and provide the following information to FAA:

- Identity of operators and witnesses (name, contact information)
- Type of operation (hobby, commercial, public/governmental)
- Type of device(s) and registration information (number/certificate)
- Event location and incident details (date, time, place)
- Evidence collection (photos, video, device confiscation)

Contact your FAA LEAP agent or an FAA Operations Center for assistance.

FACILITY	STATES	PHONE NUMBER	EMAIL
Western ROC	AK, AZ, CA, CO, HI, ID, MT, NV, OR, UT, WA and WY	425-227-1999	9-WSA-OPSCTR@faa.gov
Central ROC	AR, IA, IL, IN, KS, LA, MI, MN, MO, ND, NE, NM, OH, OK, SD, TX and WI	817-222-5006	9-CSA-ROC@faa.gov
East ROC	AL, CT, FL, GA, KY, MA, ME, MS, NC, NH, PR, RI, SC, TN, VI and VT	404-305-5180	9-ESA-ROC@faa.gov
East ROC	DC, DE, MD, NJ, NY, PA, VA and WV	404-305-5150	9-ESA-ROC@faa.gov

Law Enforcement Actions:

1. Collect information on pilot – Name, DOB, Address, SSN, etc.
2. Collect information on drone – Make, model, registration number, etc.
3. Note any FAA documentation in the pilot's possession and if it is valid
4. Write a report on the incident, it will be forwarded to the FAA
5. If there are local charges, or if the FAA LEAP office requests, you may seize the drone as evidence (be sure to issue a property receipt).
6. Applicable State Law:
 1. §61.11.1 Operation of Aircraft in a Careless Manner
 2. §61-11-3 Operation of Aircraft without federal certificate
 3. §61-11-5 Certification not in Possession

§61-11-1 (2015)

§61-11-1 - Operation of aircraft in careless manner, while under influence of intoxicating liquor, etc.; hunting or spotting game for purpose of hunting from aircraft

(1) It shall be unlawful for any person to operate an aircraft in the air or on the ground or water, while under the influence of intoxicating liquor, narcotics or other habit-forming drug, **OR** to operate an aircraft in the air or on the ground or water, in a careless or reckless manner so as to endanger the life or property of another.

(2) It shall be unlawful for any person or persons to pursue, chase, hunt, take or kill any wild game or waterfowl from an aircraft, or to spot and communicate the location of any wild game from an aircraft to another for the purpose of hunting, killing or taking such wild game.

***READ THE ENTIRE STATUE FOR OTHER PROVISIONS**

§61-11-3 (2015)

§61-11-3 – Operation of aircraft without federal certificate, permit, etc.

It shall be unlawful for any person to operate OR cause OR authorize to be operated any civil aircraft within this state unless such aircraft has an appropriate effective certificate, permit or license issued by the United States, if such certificate, permit or license is required by the United States. It shall be unlawful for any person to engage in aeronautics as an airman in the state unless he has an appropriate effective airman certificate, permit, rating or license issued by the United States authorizing him to engage in the particular class of aeronautics in which he is engaged, if such certificate, permit, rating or license is required by the United States.

***READ THE ENTIRE STATUE FOR OTHER PROVISIONS**

§61-11-5 (2015)

§61-11-5 – Possession, display, etc., of federal certificate, permit, etc.

When a certificate, permit, rating or license is required for an airman by the United States, it shall be kept in his personal possession when he is operating within the state and shall be presented for inspection upon the demand of any peace officer, or any other officer of the state or of a municipality...

***READ THE ENTIRE STATUE FOR OTHER PROVISIONS**

Soooo... as a cop, what do I do???

- Part 107 pilots are proud of that fact and will usually provide all documentation even BEFORE you request it. They are usually professionals and know what is required. However, they can try to push limits and look for loopholes to fly over people or at night without the proper waivers.
- At the very least, write a report so that it can be forwarded to the FAA. An FAA investigator will, at the very least, call the pilot to offer instruction and guidance.
- Use arrest as only a last resort. Most pilots just don't know the rules and will gladly comply when informed of the FAA requirements.
- If you have questions you can contact the FAA LEAP at 404-305-5180.

QUESTIONS???