

News Column

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Small Unmanned Aerial Systems: Regulations and safety

Last week's column was about the applications of small unmanned aerial systems (sUAS). This week's article outlines the regulations that must be met before operating a (sUAS) and safety procedures involved while flying them.

Know the rules for operating a small, unmanned aircraft (sUAS) in federal airspace before you fly. The rules can be found at <http://knowbeforeyoufly.org/> Obtain a certificate of authorization (COA), which is required for both public and commercial entities. See table below for details. To learn how to apply, visit the Federal Aviation Administration (FAA) web site at <http://www.faa.gov/uas>.

Guidelines for use of small UAS in federal airspace			
Restrictions / Requirements	Hobbyist	Public entity	Commercial user
Section 333 Exemption	No	No	Yes
Certificate of Authorization	No	Yes	Yes
Visual Line of Sight	Yes	Yes	Yes
Pilots License	No	COA*	Yes, COA*
Altitude Limitation	400 feet above ground level	COA*	COA*
Distance from Airport	5 nautical miles unless authorized	COA*	COA*

* Flight restrictions are specified in the Certificate of Authorization (COA)

Key terms

Section 333 Exemption – A Section 333 exemption is required for commercial use. It allows a sUAS operator with an FAA airworthiness certificate and COA to fly in approved airspace. Other operators may be granted an exemption for commercial use. For application procedures, visit the FAA's "Section 333" page.

Certificate of authorization (COA) – waiver that allows an operator of a small unmanned aerial system to fly within federal airspace. Altitude limitations and distance from nearest airport are specific to the **authorization certificate**.

Visual line of sight – The operator must keep the vehicle in eyesight at all times and use an observer to assist, if needed.

Altitude limitation – the maximum height (in feet or meters) above ground level that an operator can fly a small unmanned aerial system in federal airspace.

Hobbyist or recreational user – operation of a system for personal interest and enjoyment but without compensation. Selling images or videos taken from an unmanned aerial system, is considered commercial use.

Public entity – an institution or publicly funded organization (university, fire department, law enforcement) must apply for a certificate of authorization (COA) from the FAA for use in public aircraft operations or for research.

Commercial user – any person using a small unmanned aerial system for compensation or hire, for example, to capture and sell images or videos, or to provide industrial inspection, security, or telecommunication services.

The average time to process a COA is less than 60 days, but an application can be expedited in an emergency situation. Laws and regulations pertaining to public aircraft operations are referenced in 49 U.S.C. §§ 40102(a) (41), 40125, and FAA Advisory Circular 00-1.1A, Public Aircraft Operations (Feb. 12, 2014).

Information provided by Brian McCornack, field crop entomologist, and Kurt Carraway, UAS program manager, K-State Polytechnic Campus, Salina.

Source: *SUAS What You Should Know About Small Unmanned Aerial Systems*, MF3245:
<http://www.bookstore.ksre.ksu.edu/pubs/MF3245.pdf>