OFWIM and DRONES
How to stay out of trouble
AMA, FAA, and FARs

FAA 2012 Reform and Modernization Act
2014 Interpretive Rule
AMA 550
AMA 560
AC91-57
FAR 91.119 d1
NPRM
Section 333
United States v. Causby 328 U.S. 256 (1946)

was a United States Supreme Court related to ownership of airspace above private property. It held that the ancient common law doctrine of ad coelum had no legal effect "in the modern world." In the case, Causby sued the United States for trespassing on his land, complaining specifically about how "low-flying military planes caused the plaintiffs' chickens to 'jump up against the side of the chicken house and the walls and burst themselves open and die' . . . The plaintiffs sued the government, arguing that they were entitled to compensation under the takings clause of the Fifth Amendment."
First degree criminal trespass. (1) A person commits the crime of first degree criminal trespass if such person HE OR SHE: (a) Knowingly and unlawfully enters or remains in a dwelling of another; (b) or if such person Enters any motor vehicle with intent to commit a crime therein; OR 11 (c) (I) IS NOT A PEACE OFFICER OR AN EMPLOYEE OR OTHER AGENT OF A STATE OR LOCAL GOVERNMENT AGENCY ACTING IN HIS OR HER OFFICIAL CAPACITY; AND (II) HE OR SHE KNOWINGLY AND INTENTIONALLY USES AN UNMANNED AERIAL VEHICLE TO OBSERVE, RECORD, TRANSMIT, OR CAPTURE IMAGES OF ANOTHER PERSON WHEN THE OTHER PERSON HAS A REASONABLE EXPECTATION OF PRIVACY. (2) First degree criminal trespass is a class 5 felony.

SECTION 4. In Colorado Revised Statutes, 18-9-111, add (1.2) 20 as follows: 21 18-9-111. Harassment. (1.2) A PERSON COMMITTS HARASSMENT IF HE OR SHE: (a) IS NOT A PEACE OFFICER OR AN EMPLOYEE OR OTHER AGENT OF A STATE OR LOCAL GOVERNMENT AGENCY ACTING IN HIS OR HER OFFICIAL CAPACITY; AND (b) WITH INTENT TO HARASS, ANNOY, OR ALARM ANOTHER PERSON, HE OR SHE USES AN UNMANNED AERIAL VEHICLE TO TRACK A -5- HB15-1115 1 PERSON'S MOVEMENTS IN OR ABOUT A PUBLIC PLACE WITHOUT THE PERSON'S AUTHORIZATION.
YOU CAN FLY LEGALLY!
Civil vs. Public
Public - COA
Civil

1. Section 333
2. Airman Knowledge Test / NPRM (18 months or more)
SEC. 333. SPECIAL RULES FOR CERTAIN UNMANNED AIRCRAFT SYSTEMS.

(a) IN GENERAL.—Notwithstanding any other requirement of this subtitle, and not later than 180 days after the date of enactment of this Act, the Secretary of Transportation shall determine if certain unmanned aircraft systems may operate safely in the national airspace system before completion of the plan and rulemaking required by section 332 of this Act or the guidance required by section 334 of this Act.

(b) ASSESSMENT OF UNMANNED AIRCRAFT SYSTEMS.—In making the determination under subsection (a), the Secretary shall determine, at a minimum—

(1) which types of unmanned aircraft systems, if any, as a result of their size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight do not create a hazard to users of the national airspace system or the public or pose a threat to national security;

and

(2) whether a certificate of waiver, certificate of authorization, or airworthiness certification under section 44704 of title 49, United States Code, is required for the operation of unmanned aircraft systems identified under paragraph (1).

(c) REQUIREMENTS FOR SAFE OPERATION.—If the Secretary determines under this section that certain unmanned aircraft systems may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft systems in the national airspace system.
Operators would be required to:

- Pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center.
- Be vetted by the Transportation Security Administration.
- Obtain an unmanned aircraft operator certificate with a small UAS rating (like existing pilot airman certificates, never expires).
- Pass a recurrent aeronautical knowledge test every 24 months.
Title 14 → Chapter I → Subchapter A → Part 1

1.1

Aircraft means a device that is used or intended to be used for flight in the air.
§91.119 Minimum safe altitudes: General.
Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:
(a) Anywhere. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.
(b) Over congested areas. Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.
(d) Helicopters, powered parachutes, and weight-shift-control aircraft. If the operation is conducted without hazard to persons or property on the surface—
(1) A helicopter may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section, provided each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA; and
(2) A powered parachute or weight-shift-control aircraft may be operated at less than the minimums prescribed in paragraph (c) of this section.
Section 336 - FAA, and FARs

Section 336 also prohibits the FAA from promulgating “any rule or regulation regarding a model aircraft, or an aircraft being developed as a model aircraft” if the following statutory requirements are met:

- The aircraft is flown strictly for hobby or recreational use;
- The aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization;
- The aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization;
- The aircraft is operated in a manner that does not interfere with and gives way to any manned aircraft; and
- When flown within 5 miles of an airport, the operator of the aircraft provides the airport operator and the airport air traffic control tower ... with prior notice of the operation....
AMA Document 560 3. b.

AMA Pilots must be able to instantaneously deactivate programmed flight of autopilot systems at any time during flight and resume manual control of the model aircraft.
Academy of Model Aeronautics
AMA Advanced Flight Systems Committee
ama@flymodelplanes.com

Radio Controlled Model Aircraft Operation
Stabilization, Stabilization and Autopilot Systems

1. DEFINITION OF TERMS:
   Please refer to Page 3, section 7 which contains an alphabetical listing of the definitions of the terms in italics that are used in this document.

2. GENERAL:
   All model aircraft flights utilizing stabilization and autopilot control systems must be conducted in accordance with AMA's current National Model Aircraft Safety Code and any additional rules specific to a flying site/location.

3. OPERATIONS - REQUIREMENTS - LIMITATIONS:
   a) AMA members flying radio controlled model aircraft equipped with flight stabilization and autopilot systems must maintain VLOS with the aircraft at all times including programmed autopilot waypoint flight.
   b) AMA Pilots must be able to instantaneously deactivate programmed flight of autopilot systems at any time during flight and resume manual control of the model aircraft.
   c) AMA Pilots must perform an R/C Test Flight of a model aircraft before activating a newly installed autopilot or stabilization system and/or after any repairs or replacement of model aircraft essential flight systems.
   d) Model aircraft exceeding 15lbs and/or 70mph may only use an autopilot for a programmed "return to launch" (RTL) flight and not for programmed waypoint flying of a predetermined course.
   e) STABILIZATION & AUTOPILOT SYSTEMS MAY BE USED FOR/TOW:
      • Stabilization automatically stabilize aircraft to level flight when control sticks are centered.
      • Recovery/activate TRX switch to recover an out of control aircraft to level flight.
      • Heading/activate TRX switch to hold a model aircraft's heading for precision flight path.
      • Altitude/activate TRX switch to maintain fixed aircraft altitude while allowing directional control.
      • Return GPS/activate TRX switch to return aircraft via GPS to launch point.
      • Return FSStabilize activated from radio signal loss to return aircraft via GPS to launch point.
      • Fixed circle/activate TRX switch to circle aircraft at point of activation at fixed altitude.
      • Waypoint/activate TRX switch to initiate an autopilot programmed flight path via waypoints.
      • Fencing/autopilot programmed to display site unique boundaries on video monitor/poggles.
Radio Controlled Model Aircraft Operation
Utilizing “First Person View” Systems

1. DEFINITION OF TERMS:
   Please refer to Page 5 section 7 which contains an alphabetical listing of the definitions of the terms in italics that are used in this document.

2. GENERAL:
   FPV flying of radio control model aircraft by AMA members is allowed only for noncommercial purposes as a hobby/recreational and/or competition activity and must be conducted in accordance with AMA’s current National Model Aircraft Safety Code and any additional rules specific to a flying site/location.

3. OPERATIONS - REQUIREMENTS – LIMITATIONS:
   a) FPV novice pilots undergoing training at low altitude must use a buddy-box system with an FPV spotter, or must go to a safer altitude if no buddy-box system is used.
   b) All FPV flights require an AMA FPV pilot to have an AMA FPV spotter next to him/her maintaining VLOS with the FPV aircraft throughout its flight.
   c) The FPV pilot must brief the FPV spotter on the FPV spotter’s duties, communications and hand-over control procedures before FPV flight.
   d) The AMA FPV spotter must communicate with the FPV pilot to ensure the FPV aircraft remains within VLOS, warning the FPV pilot of approaching aircraft, and when avoidance techniques are necessary.
   e) During an FPV flight, the FPV spotter must be prepared to acquire the transmitter/control from the FPV pilot and assume VLOS control of the model aircraft at any time safe operation of the flight is in question.
   f) If an FPV pilot experiences a safety issue that does not appear to be a brief glitch, they must abandon FPV mode and fly VLOS.
   g) Before the initial FPV flight of an FPV model aircraft and after any changes or repairs to essential flight systems, the FPV model aircraft must have an RC test flight by conventional VLOS.
   h) FPV model aircraft must use frequencies approved by the FCC for both the RC system and the wireless video system. Pilots must meet applicable FCC licensing requirements if they choose to operate the RC flight control system or the wireless video system on Amateur ion frequencies.
   i) AMA FPV pilots must first be capable of flying their FPV model aircraft manually before utilizing FPV flight.
FAA, FAR, AMA, TFRs, CFAs and UAVs
FAA, FAR, AMA, TFRs, CFAs and UAVs

- Prohibited areas
- Restricted areas
- Warning areas
- Military operation areas (MOAs)
- Alert areas
- Controlled firing areas (CFAs)
- Other airspace areas
- Temporary flight restriction (TFR)
- Training areas
TFR

Temporary Flight Restriction
1-800-WX-Brief
NPRM Overview
Next Steps

- Organize
- Online conversations
- Final suggestions
- Submit comments to FAA
Aerial Data Systems provides:

1. Section 333 Waiver so you can fly now
2. UAV training for the Airman Knowledge Test (AKT) as per the recent NPRM
3. Online or in person
4. Hands on training 10-15 hours

http://aerialdatasystems.com/uas-training/
or give us a call
720-626-5576
Questions?