

Senate Committee on Judiciary
Committee Hearing on SB 71 – 16

Members: Chair Sen. Floyd Prozanski, Vice-Chair Sen.
Betsy Close, Sen. Jack Dingfelder, Sen. Jeff Kruse, Sen.
Arnie Roblan

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HD 19

Chair Prozanski, Vice-Chair Close, members of the committee, thank you for allowing me to speak today.

This bill as written seeks to make criminals out of hobbyist and remove a very pleasant pass time from our reach. I am personally outraged at the thought of drones being used against U.S. citizens like we are foreign animals. It is criminalizing an innocent day of fun with our small model airplanes (most range between 40” – 60 “ in wing span). It does not distinguish between “Drones” of evil and the aircraft we fly and enjoy. I assure you there are no terrorists in our club and I would bet any other club in Oregon. The only mayhem that goes on there is the occasional chopped up finger and a crashed plane.

I come before you, not only for myself and my husband, Larry, also as a member of Salem R/C Pilots Assoc. The club averages about 80 members with an average age of 62 years. We have participated in remote control modeling for close to twenty years with the last fifteen years with SR/CPA. I have been the Newsletter Editor, my husband the Treasurer over the years; worked on work parties, mowed the field, repaired the safety fence, ran the weed eater, killed yellow jackets, flew my planes and crashed my planes. It was all fun. I look forward to flying again when the field dries out.

You stand there with your radio sending signals to the receiver in the plane and by LOS (line of sight) keep the plane really very near to where you are. If you want it back you can't fly it further away than you can see it. It's as simple as that. People ask how far away can you fly the plane and it depends on the size of the plane and your eyesight. The book says the radio will control for about a mile but I guarantee you cannot see it at a mile. Not even close. I'm guessing a few hundred yards. If it's electric and not flown with model aviation fuel, it's probably pretty small and light and would not carry more than a few ounces – and you would keep it much closer. Nothing like the military Drones they can control a continent away.

This sport is already heavily controlled by the AMA (Academy of Model Aeronautics, 143,000 members), the FAA, and the State of Oregon as to where we can fly, how we can fly, how big it can be, how heavy it can be and what it can carry. They all have strict rules for the use of model aircraft (military Drones we are not). Any pilot not following the code of conduct is reprimanded or expelled from the club.

I ask you for the hundreds of modelers in OR to add some amendments to this bill to allow for the separate treatment of recreational model aircraft. Thank you for you time.

Academy of Model Aeronautics

An Associate Member of the National Aeronautic Association

The Academy of Model Aeronautics is a world-class association of 143,000 modelers and 2,394 clubs throughout the United States, including Puerto Rico and Guam. The AMA offers numerous competitions, educational programs, advocacy, liability protection, outstanding publications and the world's largest model aviation museum. Please go to www.modelaircraft.org/supportama to learn more.

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Member Insurance Benefits:

AMA coverage is not limited to model flying at contests or at a club field. It applies to flying on private property, at public demonstrations and air shows. For a summary of your insurance benefits provided with the AMA membership, please visit our website at www.modelaircraft.org/files/500-a.pdf.

All incidents need to be reported to AMA immediately! During regular business hours (Monday-Friday, 8 am-5 pm EST) please call (765) 287-1256. To report an incident involving serious injuries after hours, please call (765) 749-9210.

The Federal Aviation Administration (FAA) regulation of model flying:

Our privilege to fly model aircraft in the National Airspace (NAS) depends on our commitment to remain "well clear" of manned aircraft. Simply avoiding an actual collision is not enough. A "near miss" is not acceptable. Unless flying at a mixed-use site where manned and model aircraft routinely share airspace through their own site-specific rules, models must fly sufficiently far away from manned aircraft so as not to create a collision hazard.

Please familiarize yourself with the "See And Avoid Guidance" document located at www.modelaircraft.org/files/540-d.pdf.

Publication Services:

If a magazine is included with your membership, your subscription begins with the first issue available for the year after a correct current application and payment are received. You will receive your first issue six to eight weeks after membership payment has been made.

Academy of Model Aeronautics National Model Aircraft Safety Code Effective January 1, 2011

A. GENERAL:

A model aircraft is a non-human-carrying aircraft capable of sustained flight in the atmosphere. It may not exceed limitations of this code and is intended exclusively for sport, recreation and/or competition. All model flights must be conducted in accordance with this safety code and any additional rules specific to the flying site.

1. Model aircraft will not be flown:

- In a careless or reckless manner.
- At a location where model aircraft activities are prohibited.

2. Model aircraft pilots will:

- Yield the right of way to all man carrying aircraft.
- See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D-See and Avoid Guidance.)
- Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport, without notifying the airport operator.
- Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
- Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Aircraft program. (AMA Document 520-A)
- Insure the aircraft is identified with the name and address or AMA number of the owner on the inside or affixed to the outside of the model aircraft. (This does not apply to model aircraft flown indoors).
- Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
- Not operate model aircraft while under the influence of alcohol or while using any drug which could adversely affect the pilot's ability to safely control the model.
- Not operate model aircraft carrying pyrotechnic devices which explode or burn, or any device which propels a projectile or drops any object that creates a hazard to persons or property.

Exceptions:

- Free Flight fuses or devices that burn producing smoke and are securely attached to the model aircraft during flight.
- Rocket motors (using solid propellant) up to a G-series size may be used provided they remain attached to the model during flight. Model rockets may be flown in accordance with the National Model Rocketry Safety Code but may not be launched from model aircraft.

- Officially designated AMA Air Show Teams (AST) are authorized to use devices and practices as defined within the Team AMA Program Document (AMA Document #718).

- Not operate a turbine-powered aircraft, unless in compliance with the AMA turbine regulations. (AMA Document #510-A).

3. Model aircraft will not be flown in AMA sanctioned events, air shows or model demonstrations unless:

- The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
- An inexperienced pilot is assisted by an experienced pilot.

- When and where required by rule, helmets must be properly worn and fastened. They must be OSHA, DOT, ANSI, SNELL or NOCSAE approved or comply with comparable standards.

B. RADIO CONTROL (RC)

- All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
- A successful radio equipment ground-range check in accordance with manufacturer's recommendations will be completed before the first flight of a new or repaired model aircraft.
- At all flying sites a safety line(s) must be established in front of which all flying takes place (AMA Document #706-Recommended Field Layout)
 - Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
 - At air shows or demonstrations, a straight safety line must be established.
 - An area away from the safety line must be maintained for spectators.
 - Intentional flying behind the safety line is prohibited.

- RC model aircraft must use the radio-control frequencies currently allowed by the Federal Communications Commission (FCC). Only individuals properly licensed by the FCC are authorized to operate equipment on Amateur Band frequencies.
- RC model aircraft will not operate within three (3) miles of any pre-existing flying site without a frequency-management agreement (AMA Documents #922-Testing for RF Interference; #923- Frequency Management Agreement)

- With the exception of events flown under official AMA Competition Regulations, excluding takeoff and landing, no powered model may be flown outdoors closer than 25 feet to any individual, except for the pilot and the pilot's helper(s) located at the flight line.

- Under no circumstances may a pilot or other person touch a model aircraft in flight while it is still under power, except to divert it from striking an individual. This does not apply to model aircraft flown indoors.

- RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times.

9. The pilot of a RC model aircraft shall:

- Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
- Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.

C. FREE FLIGHT

- Must be at least 100 feet downwind of spectators and automobile parking when the model aircraft is launched.
- Launch area must be clear of all individuals except mechanics, officials, and other fliers.
- An effective device will be used to extinguish any fuse on the model aircraft after the fuse has completed its function.

D. CONTROL LINE

- The complete control system (including the safety thong where applicable) must have an inspection and pull test prior to flying.
- The pull test will be in accordance with the current Competition Regulations for the applicable model aircraft category.
- Model aircraft not fitting a specific category shall use those pull-test requirements as indicated for Control Line Precision Aerobatics.
- The flying area must be clear of all utility wires or poles and a model aircraft will not be flown closer than 50 feet to any above-ground electric utility lines.
- The flying area must be clear of all nonessential participants and spectators before the engine is started.



Radio Controlled Model Aircraft Operation Utilizing "First Person View" 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:

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) *AMA FPV novice pilots* must use a buddy-box system with an *FPV spotter* while learning to fly *FPV*.
- 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) The *FPV spotter* may at any time during an *FPV flight* acquire the transmitter from the *FPV pilot* and assume *VLOS* control of the model aircraft.
- f) If the *FPV pilot* experiences a problem due to a loss of video link, orientation, or is unable to safely fly, he/she must abandon *FPV* mode and fly *VLOS* or pass the RC transmitter to the *FPV spotter* to assume *VLOS* control of the model aircraft.
- g) Before the initial *FPV* flight of an *FPV model aircraft* and/or after any changes or repairs to essential flight systems, the *FPV model aircraft* must have an *R/C 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 Band frequencies.

4. RANGE – ALTITUDE – WEIGHT – SPEED:

- a) One of the requirements in Federal Law (Public Law 112-95 Sec 336 (c) (2) February 14, 2012) for model aircraft to be excluded from FAA regulations is that model aircraft must be flown within *VLOS* of the operator.
- b) Model aircraft flown using *FPV* must remain at or below 400 feet AGL when within 3 miles of an airport as specified in the AMA Safety Code.
- c) Model aircraft flown *FPV* are limited to a weight (including fuel, batteries, and onboard *FPV* equipment) of 15lbs. and a speed of 70mph.

5. RECOMMENDATIONS & INFORMATION:

- a) *AMA FPV novice pilots* should consider using a cockpit view flight simulator to become accustomed to *FPV* flight.
- b) *AMA FPV pilots* should consider using a programmable *autopilot* (AMA Document #560) with a failsafe "return to launch" (RTL) feature that will maintain control of the aircraft in the event of signal loss.
- c) An onboard camera equipped with a pan and tilt mount that is positioned by head tracking goggles, will improve the *FPV pilot's* situational awareness of airspace surrounding the *FPV aircraft* during flight, but does not replace the requirement for an *AMA FPV spotter*.
- d) When purchasing *FPV* operational systems, always try to select quality equipment, verify its compatibility, install components for interference rejection, and determine that signal range is adequate for maximum *VLOS* range.

6. PRIVACY PROTECTION SAFEGUARDS:

The use of imaging technology for aerial surveillance with radio control model aircraft having the capability of obtaining high-resolution photographs and/or video, or using any types of sensors, for the collection, retention, or dissemination of surveillance data information on individuals, homes, businesses, or property at locations where there is a reasonable expectation of privacy is strictly prohibited by the AMA unless written expressed permission is obtained from the individual property owners or managers.

7. DEFINITIONS OF TERMS:

AMA FPV Pilot is an AMA member who is capable of maintaining stable flight of a model aircraft within its intended flight envelope when flown FPV without losing control or having a collision.

Essential Flight Systems are any systems or components necessary to maintain stable flight within a model aircraft's flight envelope. (This includes primary radio control systems and any stabilization or gyros required to maintain stability and heading in certain types of model aircraft that would be uncontrollable/unstable without their use).

First Person View (FPV) refers to the operation of a radio controlled (R/C) model aircraft using an onboard camera's cockpit view to orient and control the aircraft.

Flight Envelope is defined as the range of airspeeds, attitudes, and flight maneuvers which a model aircraft can safely perform/operate for its intended use.

FPV Aircraft is an RC model aircraft equipped with a video transmitter to send real-time video images from an onboard camera to a ground based receiver for display on a pilot's video monitor/goggles. (FPV model aircraft types include: Fixed Wing, Rotary Wing, and Multi-Rotor Platforms).

FPV Novice Pilot is an AMA member learning to fly FPV utilizing a buddy-box system with an experienced AMA RC pilot operating the master transmitter and serving as the FPV spotter.

FPV Spotter is an experienced AMA RC pilot who has been briefed by the FPV pilot on the tasks, responsibilities and procedures involved in being a spotter; is capable and mature enough to perform the duties and is able to assume conventional VLOS control of the aircraft.

Non-Essential Flight Systems are any systems or components that are not necessary to maintain stable flight within the model aircraft's flight envelope. (This includes autopilot or stabilization systems that can be activated and deactivated in flight by the pilot without affecting stable flight).

R/C Test Flight requires an AMA Pilot to manually operate an R/C transmitter to control a model aircraft's flight path and determine if the aircraft is capable of maintaining stable flight within its flight envelope.

Visual Line Of Sight (VLOS) is the distance at which the pilot is able to maintain visual contact with the aircraft and determine its orientation without enhancements other than corrective lenses.