

AMA GOLD LEADER CLUB

# RC Propbusters of Salem CT

www.rcpropbusters.com

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RC Propbusters, Inc. ©

AMA Club No 191  
Founded 1937

## February 2020 Newsletter

Renew your annual RC Propbusters membership online at: <http://rcpropbusters.com/>  
You have until March 2nd to let FAA know your concerns about model-aircraft identification.

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**Andy Argenio, AMA District 1 VP, addresses Propbusters on Tuesday, February 18, 2020**

Propbusters President Bill Mares suspended regular business at our February meeting in order to host a spirited presentation by Andy Argenio, AMA District 1 vice-president, concerning the FAA notice of proposed rulemaking (NPRM) that would “permit the FAA, the Public, law enforcement, and others to remotely track and identify UAS/model-aircraft during flight and identify operators.” Andy’s two handouts are attached to the end of this newsletter.

***The time to let your voice be heard is now. You have until **March 2<sup>nd</sup>** to let the FAA know your concerns and ideas to find a workable solution for Remote ID.***

<https://www.federalregister.gov/documents/2019/12/31/2019-28100/remote-identification-of-unmanned-aircraft-systems>

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RC Propbusters meetings: Third Tuesday of every month @ **7:30 PM**. Meeting location is **Salem Public Library**, CT Route 85, about one mile north of Salem Four Corners (Circle).

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# Learn to Fly!

If you have an interest, come to our field. There is usually a member there who will give you the opportunity to try flying a trainer type model either powered by an electric motor or fueled engine. The gentlemen listed below have generously offered to help you learn to fly r/c airplanes, helicopters, drones, and gliders.

## INSTRUCTORS

TOM VERNON	CHIEF PILOT	860-859-1584	JOE COMEROSKI	HELICOPTERS	860-848-3184
DENNIS DUPLICE	FIXED WING	860-376-6230	ED DEMING	HELICOPTERS	860-884-3222
ROBERT LARSON	BOTH	860-526-2267	MARK O'CONNELL	BOTH	860-460-8835
KYLE SWAIDNER	** GLIDERS	860-405-5304	LEN BUFFINTON	* GLIDERS	860-395-8406
DAVE GRAINGER	FPV RACING	860-302-3169	RICHARD CROOKS	FIXED WING	860-446-0050

\* Len Buffinton is a Glider and Aero-Tow expert who can also help you with fixed wing flying.

\*\* Kyle Swaidner flies everything, and also is offering to introduce you to sidearm and discus launched GLIDERS.

If you are a student, hook up with one of these men and get trained.

Any club pilot can train you, but an instructor must sign you off.

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## R/C Propbusters, LLC. Officers for 2020

President:	Bill Mares
Vice President:	Harold "Buzz" Paige
Treasurer:	John Banks
Secretary:	Peter Sylvester
Safety officer:	Tom Vernon
Webpage Editor:	Mark Thompson
Newsletter Editor:	Jim Holzworth
Field Marshal:	Shane Duffy
Board of Directors:	George White, Richard Cavanaugh, Mark Thompson, Dave Hoffman

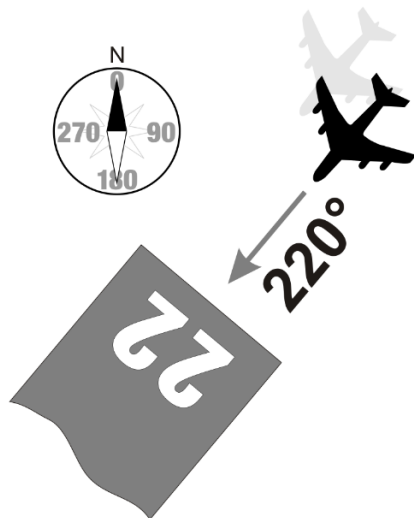
### CHECK OUT OUR WEBSITE:

<http://rcpropbusters.com/>

If you want to contribute something to the website, you can do so on the forum or contact Mark Thompson at [mark@sterlingtec.net](mailto:mark@sterlingtec.net)

Submit ideas and tips for the newsletter to Jim Holzworth at [jimholzworth@gmail.com](mailto:jimholzworth@gmail.com)

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### NOTICE (from the Editor): Do we have your correct email address?

If you are currently a member of R/C Propbusters in good standing, and can only receive the monthly newsletter from our website (<http://www.rcpropbusters.com>), maybe your email address has changed, or was incorrectly entered on our membership list. Monthly newsletters are sent individually (directly) to each club member at the email address listed on the membership list. If you have a new email address, or need to make a correction, please contact Jim Holzworth at [jimholzworth@gmail.com](mailto:jimholzworth@gmail.com). Our membership list will be updated.

<https://www.radarbox24.com/blog/what-do-runway-numbers-mean>

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# February Aviation Events & Milestones

4 February 1902 (USA) — Charles Augustus Lindbergh (1920-1974), one of the most famous aviators in history, is born in Detroit, Michigan.

10 February 1933 (USA) — American Airways, Inc., extends air mail service from Toledo, Ohio to Columbus, Ohio.

12 February 1933 (USA) — American Airways, Inc., starts Air Mail Service between Boston, Massachusetts, and Albany, New York.

13 February 1943 (Solomon Islands) — The Vought F4U “Corsair” naval fighter makes its operational debut in Solomon Island, escorting PB4Y-1 “Liberators” (the United States Navy's version of the B-24) raiding Bougainville.

23 February 1945 (Iwo Jima) — Flag Raising on Iwo Jima.

9 February 1969 (USA) — First flight of the Boeing 747 “Jumbo Jet” airliner takes place in Seattle, Washington. The wide-bodied, long-range transport is capable of carrying 347 passengers, and is the largest aircraft in commercial airline service in the world.

18 February 1977 (USA) — The converted Boeing 747 Space Shuttle carrier makes its first flight with the shuttle “Enterprise” on its Back, at NASA's Dryden Flight Research Center.

8 February 1988 (USA) — The Federal Aviation Administration (FAA) retires an aircraft registration number for the first time (USA) — that of Amelia Earhart's airplane, which disappeared over the Pacific in July 1937.

<https://www.skytamer.com/February.html>

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*The wing warping and the rudder were mechanically coupled in order to relieve the operator of thinking of two operations simultaneously.*  
— Orville Wright

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## 2020 Event Schedule

Probsters Flying Field Clean-up	Saturday, April 11 (rain date, Saturday, April 18)
Aerotow	Friday, Saturday & Sunday, May 15-17
Memorial Event	Saturday & Sunday, June 13-14
All-Electric FunFly	Saturday, July 18 (rain date, Sunday, July 19)
Neighborhood FunFly	Saturday & Sunday, August 22-23
Labor Day Potluck	Monday, September 7

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### Colorado drones mystery - a False Flag operation to support the FAA's NPRM?

Jan 13, 2020

Many people have emailed me suggesting that the mystery drones seen over Colorado and Nebraska could be a false-flag move by the US government to sure up support for the FAA's latest NPRM so in this video I take a look at what we know and whether this conspiracy theory may or may not hold water. I'd love your feedback on this one.

<https://www.youtube.com/watch?v=u5L3HS6D9MA>

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## Tips & Tricks

Editor’s Note: **No alarm here.** We need to know more about Lipo batteries. Some of us are maybe too comfortable with them, too complacent, somewhat ignorant, and/or too lazy caring for Lipo batteries. This editor is all of the above. Propbusters don’t want any more accidents or fire events. Safety first, brothers and sisters!

### Safely disposing of LiPo batteries

To safely dispose of your LiPo batteries you should first completely discharge them. There are multiple ways to do so. Two of them I want to take a closer look at.

#### Discharging with a load

Probably the safest way is to discharge your LiPo with a load. A 12V, 20W halogen light bulb or tail light bulb will work perfectly fine for up to four cells. It will discharge slowly and after a couple of hours your battery will be empty. Double check with a multi meter to be sure that your battery really is empty. For more than 4 cells you can simply add another light bulb in series.

If you want to get fancy you can also get a LiPo killer - this is a simple circuit that will discharge your LiPo battery for you, the great thing is, that you can also use it to discharge your batteries to storage voltage.

#### Discharging in salt water

Another way is to discharge in salt water. You simply fill a bucket with water, mix salt into it, throw your battery in and *let it sit for a couple of days*. This method is especially good when you have a couple of batteries to discharge at once. After you put the batteries into the salt water you should see bubbles coming from the battery terminals, that’s how you know it is discharging. Also with this method, double check with a multi meter that the batteries are empty.

Read the entire article at: <https://brushlesswhoop.com/storing-fully-charged-lipo-batteries/>

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## Just so you know ...

The following item was suggested by Propbuster Tom Picinich:

#JoyplanesRC #HobbyRC



### How can gliders fly without propulsion | The most complete explanation

Aug 22, 2019

Gliders are airplanes heavier than air that can be kept in flight without an engine. How can you fly without an engine? That is what is explained in this video in addition to several curiosities about these aircraft. According to Wikipedia a glider is a fixed-wing aircraft that is supported in flight by the dynamic reaction of the air against its lifting surfaces, and whose free flight does not depend on an engine. Most gliders do not have an engine, although

motor-gliders have small engines for extending their flight when necessary by sustaining the altitude (normally a sailplane is on a continuously descending slope) with some being powerful enough to take off self-launch. WEB

<https://joyplanes.com/joyplanes-rc-home/>. View this video at : [https://www.youtube.com/results?search\\_query=%23JoyplanesRC](https://www.youtube.com/results?search_query=%23JoyplanesRC)

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## Minutes of the February 18<sup>th</sup>, 2020 RC Propbusters Meeting

The meeting was called to order at 7:30 PM with a packed house. February business was postponed until next month.

Andy Argenio, AMA District 1 vice-president, made a presentation and led a spirited Q&A session concerning the FAA notice of proposed rulemaking (NPRM) allowing the FAA, the Public, law enforcement, and others to remotely track and identify UAS/model-aircraft during flight and identify operators. Andy strongly encouraged all of us to send comments the the FAA before March 2<sup>nd</sup>.

**Club Officer attendance:**

X  President    X  Vice President    X  Treasurer    X  Secretary    X  Safety Officer      Field Marshal

Meeting adjourned at 9:00 pm.

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**Summary Remote-ID (4 Pages)**

**Origin and Purpose of NPRM for Remote Identification (RID):**

In 2016, as a result of reported drone incidents, Congress tasked the FAA with issuing regulations by July 2018 that would permit the FAA, the Public, law enforcement, and others to remotely track and identify UAS/model-aircraft during flight and identify operators. The purpose of the rule was to enhance safety and security of UAS operations and as a tool for law enforcement to address unauthorized and illegal drone operations as well as to develop the necessary elements for a comprehensive UAS traffic management (UTM) system.

**NPRM - Remote Identification (Remote -ID):**

**Required Remote-ID:** Under the proposed rule, a person operating a UAS in the NAS would have to meet the FAA RID requirements on or before the 36th month after the effective date of the final rule. This may be done in one of two ways, either by operating a UAS/model-aircraft that is FAA compliant Standard RID or Limited RID. Standard and Limited UAS/model-aircraft incorporate specific system technologies as well as different operational requirements and limitations.

**Exempt Remote-ID:** UAS/model-aircraft that are considered Amateur-built (more than 50% by hobbyist) or Owned and Manufactured before the NPRM rule was enacted are exempted from requiring RID. Exempted UAS/model-aircraft may only be flown at FAA FRIA sites and within VLOS of operator.

**Remote-ID & Tracking** is the ability of a UAS/model-aircraft in flight to provide its identification and location information that people on the ground and other airspace users can receive with an app on a smartphone. RID utilizes technology systems to broadcast and/or network flight path data and the ID of the aircraft and owner in message elements sent to a USS data handler for the FAA.

**Unmanned Service Supplier (USS)** is part of a network of USS data handlers who will collect the remote identification and location data in real-time that's broadcast and/or networked from in-flight UAS and their ground control-station for the FAA. The data collected will be retained for a period of 6 months. The average USS data handling fee will be \$2.50 a month for operators.

**Message Elements** – Standard RID broadcast message elements include UAS/model-aircraft serial/session number, latitude, longitude, BP altitude and warning status if broadcast is lost. Standard and Limited RID transmitted message elements via internet includes serial/session number and latitude, longitude, BP altitude of control station, time mark, and emergency status of the control station.

**UAS Labeling** - Manufactures of UAS with remote identification would have to include a permanent label affixed the UAS to indicate Standard RID or Limited RID requirements.

**FRIA** – An FAA-recognized-identification-area (FRIA) is a flying site approved by the FAA from established CBO sites. The CBO applicant must submit an application within 12 months from the rules effective date. The FAA will not consider applications after the date. The FAA will maintain a list of FRIA sites on their website. Renewals would be every 48 months. If a club loses a flying site, it will not be allowed to acquire another...no new sites and no temporary sites even on private property. Changes to application have to be submitted within ten days of the change. Renewals no later than 120 days prior to the expiration date. Terminated sites may request reconsideration within 30 days.

**1. Standard Remote-ID UAS/Model Aircraft** – The Standard UAS/model-aircraft’s onboard equipage includes a GPS receiver, barometric altitude sensor and a broadcast RF spectrum signal unit (47 CFR Part 15 no FCC license required) which automatically starts broadcasting its message elements every second of flight while the ground station utilizing a smartphone and app for its GPS and its barometric altitude sensor will simultaneously transmits via the internet its message elements every second to a USS data handler for the FAA. Range of flights from the operator are not limited by any equipage.

**Equipage:**

**UAS** - Broadcast RF Spectrum Signal Unit(47 CFR Part 15 no FCC license required) Wi-Fi/Bluetooth, GPS tracking unit, barometric altitude sensor.

**Control Station** – An Android/iOS smartphone and app or a compatible direct broadcast receiver module are needed to capture the Broadcast message elements and transmit them through the smartphones network connection to a USS.

**Design requirements:**

**UAS** – No flight range limit; Designed failsafe warning to land when unable to broadcast; Automatic message broadcast every second from takeoff to landing; Designed monitoring feature to notify the operator of the UAS if the broadcast capability is lost.

**Control Station** – Designed failsafe warning to prevent take-off when broadcast not functioning.

**Standard Remote-ID operating requirements:**

- UAS flying is not limited to FRIA sites and may be flown at any permitted location as well as BVLOS.\*
- Broadcast systems start broadcasting message elements from the UAS on power-up directly to the Control Station’s smartphone or a direct broadcast receiver which simultaneously transmits the message ever second through a functioning internet connection to a USS data collector from takeoff to landing.

- UAS may be flown with only a functioning Broadcast system if the internet is unavailable.
- UAS must not be flown with only a functioning Control Station
- If the internet is unavailable at takeoff, or if during flight, the UAS may be flown with only a functioning Broadcast system.
- If the internet is available, but the UAS cannot connect to a USS, the UAS would be designed such that it could not take off.
- Loss of Broadcast function activates a UAS design feature to warn the operator to land the UAS.
- The Broadcast function doesn't require an internet connected device for transmission to the USS when a Control Station or its internet connection is inoperable?
- The UAS must be labeled as a Standard RID UAS and certified compliant to be flown.
- UAS have a monitoring feature that would notify the person manipulating the flight controls of the UAS if the broadcast capability was lost.

**2. Limited Remote ID UAS/Model Aircraft** - The Limited UAS/model-aircraft doesn't require an onboard broadcast unit or barometric altitude sensor and so its flight path is not tracked nor is its altitude. It is however required to be factory limited to flying at a maximum radius from the operator of 400 ft. This may require a GPS receiver onboard the aircraft integrated into the receiver control system to geo-fence the 400 ft. radius or utilize an RF power range limiting method, or another tamper proof method to limit the range.

**Equipage:**

**UAS** – May utilize a GPS receiver to detect/limit UAS's flight range to 400 ft. from the Control Station or utilize a RF power range limiting method or another tamper proof method.

**Control Station** – Android/iOS smartphone and app for internet connection to USS, and designed failsafe to warn operator and to prevent a takeoff when the internet isn't functioning.

**Design requirements:**

**UAS** – Flight range limited at factory to 400 ft. radius from the Control Station using GPS or RF limited power or other methods; UAS designed to monitor systems and notify the operator of any RID malfunctions, failures, or anomalies; RID systems are to be tamper-proof.

**Control Station** – Designed failsafe warning prevent takeoff when internet isn't functioning or warns the operator to land if the internet fails in flight.

**Operating requirements:**

- UAS must be flown only within 400 ft. within VLOS and only at FRIA site.



- Network from the Control Station with a smartphone app to send the message elements via the internet to the USS every second from takeoff to landing.
- Must not use a Broadcast system.
- UAS failsafe design must prevent a takeoff if the Network is not functioning.
- Network connection loss during flight activates a UAS failsafe to warn the operator to land.
- Must be labeled as Limited RID UAS and certified compliant.

**3. Exempted Remote-ID** - A UAS/model-aircraft that would not qualify for either Standard RID or a Limited RID may not be flown unless its Amateur-built\* or owned and manufactured before the NPRM rule was enacted and then only flown at FAA FRIA sites within VLOS of the operator.

**\*Amateur-built** - means a UAS/model-aircraft where more than 50% has been fabricated and assembled by a person solely for their own education or recreation. Hobbyist who build Kits that contain more than 50% but less than 100% of already fabricated parts do not qualify for Amateur-built and the hobbyist is required to install either Standard/Limited Remote ID.

- Model-aircraft manufactured or owned before the NPRM rule was enacted may be flown without Remote-ID but only at FAA approved "FRIA" sites.
- Model-aircraft manufactured or purchased after the NPRM rule was enacted must be equipped with either Standard RID or Limited RID except if Amateur-built.
- ARF Model-aircraft do not qualify as Amateur-built because more than 50% was fabricated and assembled by the manufacturer except if it was manufactured before the NPRM rule was enacted.
- Kit Model-aircraft must contain less than 50% of already fabricated parts in order to qualify as Amateur-built

## **LAST CHANCE TO SAVE THE HOBBY**

**We Need Member Opposition Comments**

**Posted at FAA before March 2, 2020**

**Academy Model Aeronautics**

**Andy Argenio District I V.P.**

**brandshobby@gmail.com**

**(401) 575-6215**

### **Remote-ID Youth Education Consideration:**

1. There are no educational accommodations as Congress called for in Section 350 for recreational UAS/model-aircraft operated by an institution of higher education for educational purposes to continue to instruct and train new generations.

2. Model aviation holds a strong position in our nation's classrooms.

Model aviation is an effective tool for inspiring young people to explore careers in STEM-related fields. Building and flying model airplanes is a gateway to aviation for legions of aviators and engineers. It's a "hands-on" experiences for future generation of problem solvers and inventors.

3. In a time when our nation is experiencing a shortage of aviation professionals, we need to find ways to make flying model aircraft easy, not hinder the experience.

In order to fulfill future aviation roles, it is imperative to introduce newcomers to the exciting and engaging hobby of model aviation. We can accomplish this by making aeromodelling easily accessible to everyone without unnecessary restrictions.

4. The FAA's registration requirement and proposed Remote ID technology will hinder the ability of educators to share these experiences with their students.

The AMA currently has more than 50,000 members between the ages of 13 and 18 and more than 13,000 members under the age of 13. For these AMA Youth members and their families, the FAA's registration requirement and Remote ID technology could be a deal-breaker for continued participation in the hobby.

The high costs and time commitment associated with a registration effort on this scale is insurmountable for many. The price of aircraft is already a potential burden, and adding in costly Remote ID technology in the manufacturing process will only exacerbate this problem. Model aviation has been and should continue to be available to all children, regardless of their socioeconomic status.

5. Fixed flying sites are not the only viable solution.

Our students learn and fly not only at school facilities such as gyms and school grounds outdoors but also at community parks and at home. Many of our kids don't have cell phones and want to fly at locations that don't have Wi-Fi or mobile phone/data cellular service. The proposal would severely limit those options and require expensive and burdensome restrictions that would disallow the model aviation activities while having no significant impact on the overall safety of the National Airspace System.

Although it is helpful that the proposal includes an option to comply with Remote ID by flying at an approved fixed site, it is concerning that the proposal limits the number of approved sites and prohibits the establishment of new sites. The rule appears designed to phase out these sites over time, rather than treat them as a viable long-term option for complying with Remote ID. Please consider viewing fixed

flying sites as part of a viable long-term solution to Remote ID, and to amend the rule to allow for the establishment of new sites in the future.

6. Remote ID makes sense for autonomous flight operations.

In the case of fully autonomous UAS that are equipped to fly via GPS coordinates and waypoints with no continuous, positive input via a pilot, it makes sense to have Remote ID requirements. However, a UAS that requires continuous, positive input from a pilot to maintain its flight within line-of-sight should be exempted from requiring Remote ID.

7. The flight envelope needs to be expanded.

Unfortunately, a 400-foot altitude limit is too small a space to accommodate all of the model aviation activities our students require. We need an easy way to accommodate flights outside of the proposed 400-foot bubble or our educational opportunities will suffer.

8. Model aviation has been and continues to be a safe activity.

Since 1936, AMA members have been safely flying model aircraft. Our safety record is overwhelmingly positive. We have safety standards in place that allow us to operate safely and without incidents in the National Airspace System. By operating within the safety guidelines the AMA provides for its members, the skies have been and continue to be safe for all aviation activities.

#### **Remote-ID NPRM Rule Considerations:**

1. Impose significant costs on the model aviation community and unnecessarily restrict existing, safe model aircraft operations.

2. Limits the number of approved sites and prohibits new sites. The rule is designed to phase out these sites rather than see them a viable long-term option for complying with remote ID.

3. FAA must create a pathway for remote ID compliance at AMA events and competitions, which may not take place at fixed flying sites. These events take place in defined locations for a short period of time, like an air show. For remote ID compliance purposes, they should be treated like fixed flying sites. I encourage the FAA to create a light process for event organizers to apply for waivers since many these events support local charities.

4. The rule must consider hobbyists who fly in rural areas with little or no internet connectivity. Rural locations are frequently the safest places to fly because they are away from people, other aircraft and structures. Solutions, such as the ability to comply from home or other WIFI-enabled locations.

5. The FAA should reconsider registering each aircraft, which will impose a cost and compliance burden on modelers. Individual registration may make sense, it is unnecessary for model aircraft designed to fly within LOS. Many of us own dozens, if not hundreds, of aircraft some fly infrequently. The time and cost involved in registering each model individually would be substantial. Also, aircraft that are built by hand do not have serial numbers, which makes registration more difficult. Selling and trading model aircraft and having to reregister would involve other costs.

6. Model aviation is a precursor to careers in aviation and engineers jobs which the U.S. desperately needs to fill.

7. Model aviation supports a \$1 billion industry responsible for thousands of U.S. jobs. We cannot afford to further harm the hobby with overly burdensome requirements.

#### **Remote-ID Registration Considerations:**

1. No longer can you just register yourself with the FAA but every model aircraft you own will need to be individually registered with a different serial number with payment of FAA fees every 3 years.

2. The NPRM requirement to register all Recreational UAS (model) individually would impose significant costs burden on the recreational UAS model aviation community. It could deter compliance and reduce the effectiveness of remote ID.

3. Changing from a single registration number for all model aircraft to individual numbers for every UAS owned would be a major issue because AMA members on average own nine aircraft each and some members own hundreds. Many model aircraft are flown infrequently - perhaps only a few times in the lifetime of the aircraft. And when we do fly an aircraft, it is always within visual line of sight, making it easy to identify the pilot at all times.

4. Many hobbyist trade or sell aircraft often, so the requirement to register and deregister will become cumbersome. The current process would meet the FAA's stated intent by simply adding a requirement to the registration process that the owner provides a number of aircraft to be operated which is a much more accurate number of UAS that may operate in the US.

5. If the proposal to register UAS individually goes into effect as is, AMA's 180,000 members would be forced to register about 1.62 million aircraft at a cost of \$8.1 million, assuming the \$5 per aircraft registration fee does not increase over time. This is clearly a substantial investment of time and resources for our community, which has already faced challenges in recent years due to increasing regulations.

6. At a minimum, the requirement should be removed for members of a community-based organization like AMA who have operated safely in the airspace for more than eight decades and already register with their organization.

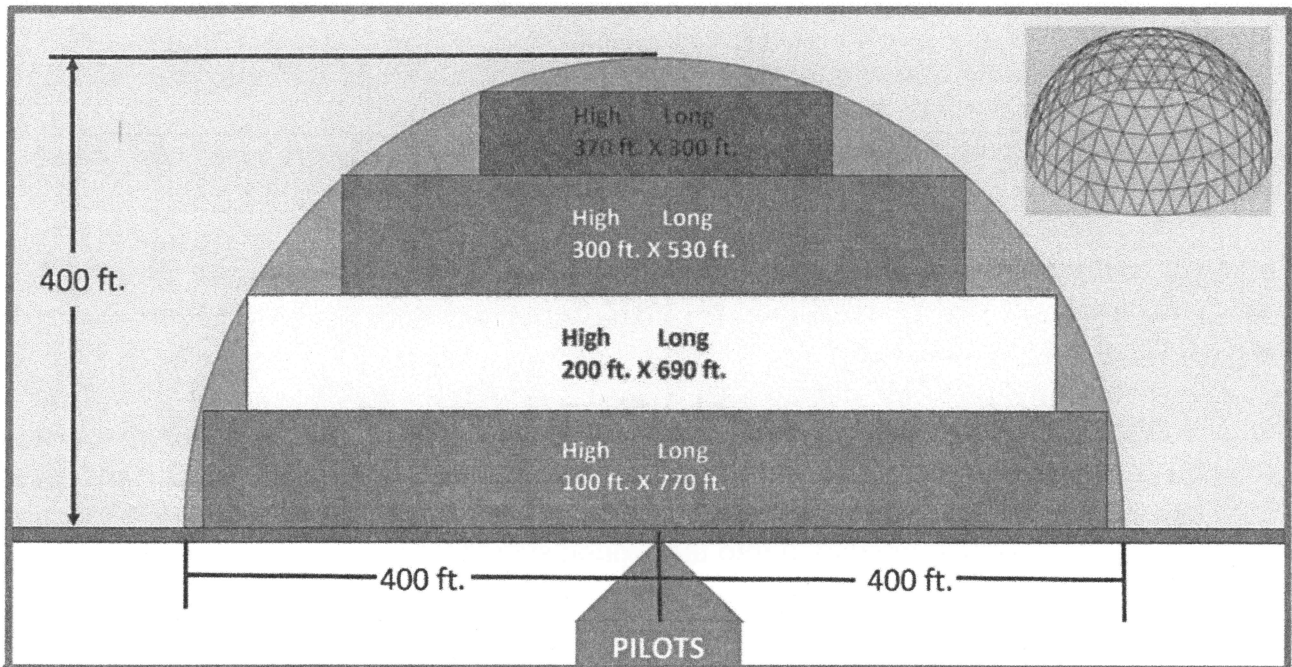
7. No longer could members apply their own serial numbers to inconspicuous locations on scale aircraft since the NPRM requires persons responsible for production to permanently affix the numbers to the aircraft. That might be fine for drones but airplane exterior polyester covering is often removed and recovered for repairs or for a new look so modelers would prefer affixing their own serial numbers.

#### **Remote-ID AMA Flying Sites Considerations:**

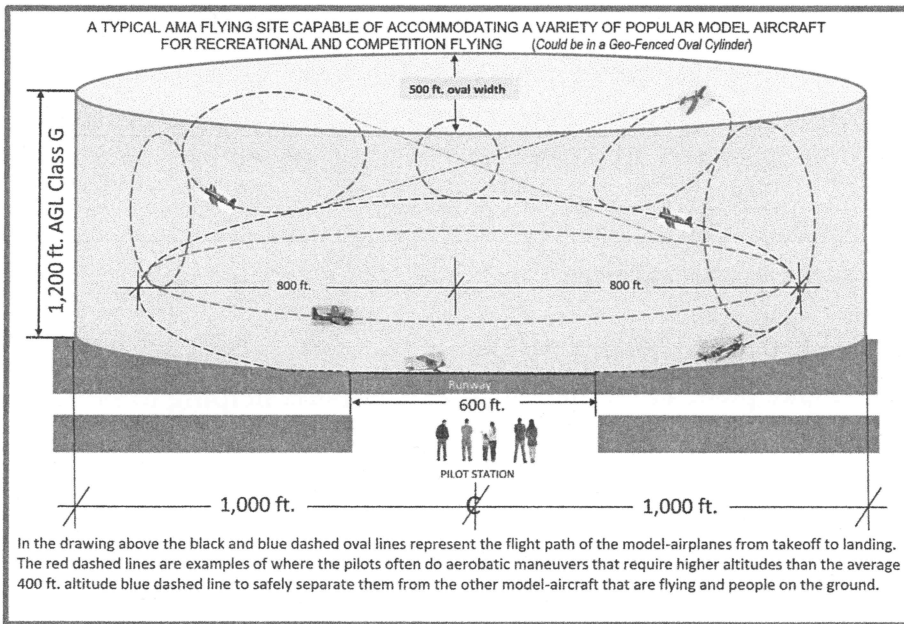
1. No longer could you fly at AMA club flying sites without the clubs applying for FAA approval as "FRIA" sites within 12 months from the effective rule date. FAA anticipates a 90% approval.

Decisions by the FAA to approve, not approve, or terminate will be based on risk assessment of the location.

2. No more applications for flying sites will be considered by the FAA after the 12 month application period.
3. No requests for renewal of FRIA sites should be submitted later than 120 days prior to the 48 month expiration date, otherwise the FAA said they may deny the request even though club leases with property owners may not be renewable 120 days before FAA's renewal expiration date.
4. No consideration will be given by the FAA for any AMA clubs that lose a FRIA flying site to acquire a new site. The FAA advises the members to seek membership in other AMA club FRIA sites.
5. No FRIA locations that the FAA intends to list on their website will indicate whether the AMA clubs have membership openings or flying is limited to certain types of model aircraft, yet they concluded that AMA FRIA sites could and would accommodate millions of additional hobbyist.
6. No understanding seems to exist by the FAA and its security partners that AMA flying sites provide the very best risk mitigation available in the world for the safe operation of model aircraft as a result of the club's support system of safety officers, flight instructors, and all the members who ensure for and enforce AMA's safety programming which accounts for AMA's 84 years of an exemplary safety record.
7. No consideration exists within the NPRM of the consequences of phasing-out AMA flying sites which would have little effect on multi-rotor drones capable of VTOL and hovering, but devastating results for 90% of AMA members who fly fixed-wing model aircraft that require a runway to take off and land.
8. No provisions are in the NPRM to alter geographic location and boundaries of FRIA sites in a timely manner to accommodate a farm owner or landowner who frequently relocates club site areas and boundaries when conducting farming or other land use operations.
9. No longer could AMA members promote aviation and aeromodelling to engage and inspire young people's interests in STEM related programs and careers conducted at non-FRIA sites at schools, scout camps, public parks, ponds and temporary sites without an FAA recreational flying site waiver process.
10. FAA accepted the recommendation of the ARC that 400 feet is a reasonable distance for law enforcement to visually associate an unmanned aircraft with the location of its control station/pilot. According to the FAA this was the rationale for proposing the 400-foot radius limitation from the remote pilot when operating in the Limited ID UAS category.  
Nearly all AMA flying sites have an entry road to a parking area with a separate pit area and flight stations for pilots. Any person, including law enforcement, can easily see the pilots and their model-aircraft at distances of 1,000 ft. or more because the models are always flown within VLOS of everyone at the flying site. Model-aircraft operated by AMA members in accordance with AMA's Safety Programming have been flying for many decades while maintaining an exemplary safety record at their flying sites.



As can be seen in the following drawing, a 400 ft. radius limit geo-fenced in area, by virtue of its dome shape, progressively reduces the flight box area to a length of only 300 ft. at an average flight altitude of 370 ft. This virtually constricted airspace poses a high risk for collisions with other model aircraft and a hazard to people on the ground. This flight area would only be safe for flying smaller *park* type model aircraft that weigh several pounds or less or hover type aircraft like helicopters and multi-rotor drones. For the average model aircraft it would not allow for a reasonably safe descent and glide path for landings and to prevent an unintended stall on takeoff nor would it allow for enough lateral distance at flight altitudes



The most commonly flown model aircrafts have 50"-72" wingspans and require a horizontal radius of 800 to 1,000 ft. from the pilot for safe uncongested flying as well as making safe landing approaches and takeoffs suitable for the model-aircrafts designed flight envelopes. The 400 ft. proposed altitude should be replaced by the FAA altitudes being granted to clubs in controlled airspace as a result of the recent process introduced by the FAA to do operational risk assessment (ORA) and mitigation at AMA flying sites in collaboration with the AMA. Club altitudes in uncontrolled airspace should also be decided through an ORA process



## **Remote-ID Design & Performance Criteria Considerations:**

1. No commercial or recreational operators would be exempt from the NPRM rule except those flying UAS/model-aircraft that are less than 0.55 lbs. or those without Remote-ID that were purchased or built before the enactment date of the rule, or any Amateur-built (more than 50% by hobbyist) model aircraft.
2. \*No longer could you fly any new model aircraft at FAA permitted locations and altitudes in controlled and uncontrolled airspace that are not FRIA sites unless you're flying a more expensive Standard RID equipped model aircraft.
3. No model aircraft may qualify as Standard RID equipped unless it has an FAA compliant and functional broadcast system integrated into the aircraft and a compliant and functional network system integrated into the ground station control system or a Limited Remote-ID that has an FAA compliant and functional network system integrated into the ground station.
4. No provisions exist within the NPRM for Limited RID model aircraft to expand the factory set 400 ft. radius range to accommodate larger model aircraft. Unfortunately, a virtual dome shaped boundary progressively reduces the flight area as the model aircraft climbs in altitude which would make flying any fixed wing model aircraft over a few pounds totally unsafe.
5. \*No provisions exist within the NPRM for using broadcast or network systems that are not required to be integrated into transmitters and receivers. If allowed, a simple mobile broadcast unit installed in the model aircraft could transmit location and ID data to satisfy Remote ID compliance and it could be moved from one aircraft to another reducing costs considerably. Granted that this non-integrated system would no longer provide automatic tamper-proof capability, but AMA clubs could ensure/enforce that the systems are wired into multi-pole power switches so both systems always broadcast or transmit message data when powered up. Operations of this type could be limited to only FRIA sites.

## **Remote-ID Economic Impact Burden Considerations:**

1. No longer could AMA clubs obtain an FAA waiver to fly annual airshow performances at numerous charitable airshow events which often take place at municipal/private airports helping to raise millions of dollars not only for charities but to economically support the smaller airports.
2. No longer could entry level R/C model aircraft be offered at reasonable prices because the costs alone to meet the NPRM performance and design criteria for tamper proof technologies to automatically broadcast and/or transmit location and ID data, limit flight ranges/provide virtual boundaries, and monitor and warn of network connectivity errors will likely add at minimum of \$200 to the selling price.
3. No longer will older R/C radio systems have any reasonable resale value since they can't be used in new model-aircraft except Amateur-built. The average member owns two thousand dollars of up-to-date R/C radio systems destined for obsolescence. 150K members at \$2K = \$300 million dollars and

unlike drone technology, model airplane R/C technology has many more than several years of a lifespan.

4. No longer will you have one \$5 registration fee. The average modeler owns 12 aircraft so every 3 years the fee will be \$60 or \$20/yr. Network data fees for USS would be \$36/yr. and upgrades to unlimited smartphone data plans for those without plans would be \$30/mo. or \$360/yr. Total estimated yearly fees for those who have cell data plans is \$56/yr. and those without \$360+\$56=\$423/yr. These additional fees may be too much of a burden for many youth or senior AMA members to continue in the hobby.

5. No longer could many in the model aircraft hobby industry afford to retool their manufacturing to accommodate Remote-ID nor integrate them into existing aircraft or R/C systems. These increased cost and fees to consumers along with all the other hurdles to entry and compliance will affect all retail sales.

### **Remote-ID Purchasing or Building Model Aircraft Considerations:**

1. No longer could you purchase a new model-aircraft without it being Standard RID or Limited RID equipped and required to have a Declaration of Compliance on file with the FAA.

2. No longer would you be able to purchase an R/C transmitter and/or receiver that didn't have an FAA compliant integrated RID or the capability of being integrated with an FAA compliant RID system.

3. No longer would entry level R/C radios be reasonable priced since new R/C radios must be integrated with RF-broadcast and/or network systems and likely GPS/Wi-Fi for limiting flight range to a 400 ft. radius from the operator.

4. No longer could you purchase an ARF model aircraft without installing a new R/C radio system that's integrated with Standard RID or Limited RID.

5. No longer could you build a kit that contains more than 50% but less than 100% of already fabricated parts without having to equip the model aircraft with either compliant Standard RID or Limited RID.

6. No longer could you build less than 50% of a model aircraft without incorporating FAA compliant Standard RID or Limited RID. Building/fabricating more than 50% will exempt requirement for RID. No longer could you use any RC transmitters or receivers that were purchased prior to the enactment of the NPRM rule in any new model aircraft purchased after enactment of the rule.

### **Remote-ID UAS/Model-Aircraft Flying Considerations:**

1. No longer could you fly a model aircraft without having Remote-ID except if Amateur-built (more than 50% by hobbyist) or manufactured/built before enactment of the NPRM rule.

2. No longer could you fly a newly purchased Remote-ID model airplane without owning a smartphone to transmit location and ID data via the internet to a USS data handler for a fee.

3. No longer would you be able to fly a newly purchased Remote-ID model aircraft unless you have internet connectivity or a Standard RID functioning broadcast system.
4. No longer could you fly in any Class G uncontrolled airspace unless at a FAA approved FRIA site or you fly a Standard RID aircraft in permitted locations.
5. No longer could you fly your model aircraft that were built prior to enactment of the NPRM rule at any locations other than an FAA approved FRIA sites.
6. No longer could you fly a new model aircraft beyond a 400 ft. radius from yourself unless you purchase a more expensive Standard RID aircraft or fly an Amateur-built or an aircraft built/mfg. before the NPRM rule was enacted.
7. No longer could you continue to fly after receiving a warning message to land as soon as practicable while flying a Standard RID aircraft that lost its broadcast capability or flying a Limited RID aircraft that lost its network connectivity.