

Tyngsborough Hunter Property Model Aircraft Flying

(Addressing Issues & Concerns Voiced at the July 13, 2015 Selectmen Meeting)

Enforcement of model aircraft flight Rules: Each AMA club is required to have a club safety officer who is responsible for ensuring that members follow AMA's flight operational rules.

- Complaints of a Violation of AMA's Safety Code by AMA members or clubs may be made by any entity or individual to the AMA District Vice President or AMA headquarters.
- As a condition of membership in the AMA, each member agrees to adhere to the AMA National Model Aircraft Safety Code.
- Members must fly their model aircraft in accordance with AMA's flight operational rules, FAA regulations, club flying site specific rules, and any laws relating to model aircraft operations.
- Complaint evaluations are conducted by the District Vice President and may result in a hearing/deliberation by the Executive Council to decide if disciplinary action is required.
- AMA may initiate disciplinary action which may result in suspension of insurance, flying and/or expulsion of membership.

AMA Safety Record: The safe operation of model aircraft by AMA members has been demonstrated by a 79 year history of recognized excellence in providing flight operation regulations and procedures that have ensured for the safety of people, property, structures, other aircraft and the environment.

- No other aviation association has ever been exempted from the FAA rule making process for aircraft operations except the AMA for its community based safety programming and exceptional safety record. In 2012 Congress passed the Federal Modernization & Reform Act which authorized the FAA to exempt the AMA allowing its members to operate under AMA's recognized safety programming.
- AMA's model aircraft safety programming is endorsed by the following national aviation associations FAA, NAA, EAA, AOPA, AUVSI and more.

Risk Assessment & Mitigation: The AMA creates operational requirements and limitations for the safe flying of model aircraft through a risk assessment approach.

- Consideration is made as to the types of model aircraft, the systems utilized for power, control, and navigation, the location of the operation, any factors that might create a hazard to people or property and the **severity** of outcome of a hazard-related event along with the **probability** of the event occurring.

- Methods are then considered and tested to mitigate the risk to an acceptable level. If it can't be done, the flying activity or technology does not become part of AMA's flight operations.
- In the real world, attaining zero risk is not possible. Nothing can be absolutely free of risk therefore nothing can be said to be absolutely safe. There are degrees of risk, and consequently there are degrees of safety.

Risk Comparisons: The figures below are accurate and clearly show why **AMA** model aircraft flying has achieved such an **exceptional reputation for safety**.

- **Baseball Spectators Injured** - Nearly every year **1,750 spectators** at major-league games get seriously injured by some **73,000 foul balls** that are hit into the stands.
- **Golfball injuries** - More than **40,000 people** each year suffer serious golf injuries requiring hospitalization after being hit by a golfball.
- **Model Aircraft Injuries & Property Damage** – Of the **30,000,000 flights** made by AMA members each year, on average only **35 injury claims** are made. Property damage accounts for 20 claims, 13 claims for bodily harm to AMA members and **2 claims** for non-members. (**Probability** of a non member being injured is **1 in 15,000,000 flights/yr.**)

Model Aviation Related Deaths:

“The only Model Aviation Accidents resulting in death in the past 50 years would quite possibly not have happened if flight operational rules were being followed!” The 1979 incident below was described by Selectmen Chairperson, Richard Reault, at the Tyngsboro July 13 meeting.

- **2013 Incident** – An AMA member at a club approved City Park in N.Y. was struck by his copter when he flew too close to himself. *The Parks Department investigated and decided it was a freak accident and that the activities could continue at the park.*
- **2010 Incident** – An AMA flight instructor in Texas was struck by the student he was teaching to fly a helicopter when he turned his back to the student.
- **1979 Incident** – A Radio Control Association (RCA) club performing an airshow at Shea Stadium during a half-time at a Patriot/Jet game flew an unconventional lawnmower designed aircraft over the seated fans instead of over the football field and crashed into two New England fans one of who died later from the injury. (*This activity would not have been allowed under AMA regulations.*)

Overflying Site Boundaries – Each AMA club flying site has established site boundaries and no fly zones. Pilots must learn to contain the flight-path of their model aircraft within the boundaries.

- **Unintentional Overflying** when observed by members must be addressed. The recommended procedure for novice pilots to acquire the skills for remaining within boundaries is to ask a club member to stand at a minimum boundary location with his cell phone monitoring the airspace directly above and reporting back to the instructor via his cell before the aircraft overflies the boundary. This usually only takes several practice sessions before a pilot recognizes the size of his aircraft relative to the boundary line location from the flight line.
- **Intentional Overflying** or any disregard of AMA regulations and site specific rules are grounds for suspension or expulsion of a member or cancellation of a club's charter. Every member is responsible for safety and issues must be reported to the club safety officer or the district vice president.
- **AMA Overfly Rule** states *"All AMA pilots must avoid flying model aircraft directly over unprotected people, animals, vessels, vehicles or structures so as not to endanger the life and property of others who are not directly involved in the model aircraft activity."*
- **AMA Minimum Separation Distances** *"A minimum horizontal separation distance between a model aircraft in flight and other pilots/helpers is 25 ft.; and spectators/persons not part of flying activity is 65 ft.; and vehicles/structures is 80 ft."*

Noise Issues: One of the abutting neighbors, during the July 13 Selectmen Meeting, questioned the 96 dB sound level pressure range that he read was what model aircraft engines typically produce and he objected to it as exceeding the towns ordinance of 65 dB.

- The noise (dB) allowed to cross property line ranges in most areas between 50 and 65 dB. The 96 dB level is a correct base line for model engines however, this is when measured from a 20 ft. distance over a soft field.
- The AMA recommends using the 96 dB at 9.8 ft. which will be a 65 dB noise level at roughly 350 feet from the model. If the local ordinance is 65 dB at the property line, the club pilots need to ensure that all models are kept at least 350 ft. from the property line at all times during the flight.

"Open Space" Issues: It is very common to find AMA flying sites located throughout the country on "Open Space" property under management or ownership of government agencies. The AMA has negotiated memorandums of understanding and agreements for model aircraft flying sites on "open space" and EPA property that have mandates for recreational use.

Massachusetts AMA Flying Clubs: The following is a **partial list** of AMA Flying Sites that AMA clubs have been given the privilege of operating from for many years. These AMA clubs are recognized by the agencies and towns as excellent tenants. The clubs provide a watchful eye, protecting and maintaining the site areas they occupy and benefiting the community with a

place where persons of all ages who have an interest in aviation can go to learn the joys of flying a model aircraft as a worthwhile hobby/recreation.

- 495th R/C Squadron in Tewksbury on *land owned by the Commonwealth of Mass.*
- Central Mass. RC Modelers in Northborough on *Mass. Dept. of Fisheries & Wildlife land.*
- Charles River RCers in Sudbury on *Sudbury Conservation Commission land.*
- Franklin County RC Club in Turner Falls on *Turner Falls Airport property.*
- Middlesex County RC Flyers in Billerica on *Billerica Recreational Dept. land.*
- Otis Model Aircraft Club in Cape Cod on the *Crane Wildlife Reservation.*
- Quinapoxet Model Flying Club in Lancaster on *Holden Town Landfill.*
- South Shore RC Club in Bridgewater and *regulated by the Commonwealth of Mass.*

“Passive Use” Issues: The term "passive recreation" is not defined by statute, and a review of existing case law fails to provide a precise definition. Most municipalities consider passive recreation as any pastime which has no adverse impacts on a site and is generally conducted in a way to be compatible with natural and/or cultural resource protection. *AMA flying has been recognized as a passive use by a number of public agencies including the EPA in a memorandum of agreement with the AMA.*

- Model Aircraft flying at “open space” areas permitting “passive recreation” typically requires permission from the custodian, director or administrator of the property or park in order to operate any gas- or electric-powered aircraft, as well as model rockets or hot air balloons at specified places and times designated for a variety of such activities.
- Provisions are usually made by the AMA club to ensure for the safety of its members, spectators, neighbors and their property from any flying activities so as not to be subject to undue hazard; and conducted in such a manner as to minimize potential damage to public or private property; model aircraft flying activities will not constitute a public nuisance; such activities will not unduly interfere with the use of the facilities for other activities either separate from the designated area for flying model aircraft or occurring at other times; and the AMA clubs must provide a certificate of insurance satisfactory to the City/Town/Agency as an additional insured.

Current Laws, FAA Advisory Circular, AMA Safety Code provide regulation and direction on recreational model aircraft flying.

- **FAA Advisory** - Since 1981 AMA pilots have operated model aircraft in accordance with FAA Advisory Circular 91-57. Which provides basic core operational recommendations regarding flight locations in people and noise sensitive areas, 400 ft. altitudes, giving right of way to manned aircraft, and notifying an airport when 3 miles away, that model aircraft are going to be flown.

- **FAA Law** - In 2014, in a National Transportation Safety Board FAA appealed court case, the FAA was granted authority to enforce Federal Aviation Regulation 91.13 relating to “Careless & Reckless” flying of a manned aircraft as a law in the Federal Aviation Regulations (FAR) for unmanned model aircraft flying as well.
- **AMA National Safety Code** – As a condition of AMA membership all AMA pilots must fly their model aircraft in accordance with a comprehensive set of risk based rules that apply to a variety of aircraft and their associated systems and operations.
- **State & Municipality Laws:** Until which time the FAA promulgates rules for model aircraft flying or is given the authority to do so for a community based exempted group such as the AMA, AMA members will still be subject to State and Municipality laws explicitly related to publicly owned or managed land. *The local government **does control where and when on public property a model aircraft can be flown. They don’t control how model aircraft are operated in the National Airspace (NAS)** since the FAA has had exclusive sovereignty of NAS since 1958.*

AMA Liability Insurance:

- **AMA Site Owners** – Protection liability for injury or damage resulting from club activities on the flying site. As primary insurance the AMA policy pays on the site owner’s behalf without involvement of the site owner’s own insurance. The policy limit is \$2,500,000 per occurrence (accident) and \$5,000,000 annually for all claims per location.
- **AMA Member** liability protection insurance for “open class” members, applies to bodily injury or property damage caused by an AMA member. The “per occurrence” limit of available coverage is \$2,500,000 for accidents arising from model activities.
- **AMA Park Pilot members** flying 2 lb. electric aircraft have a per occurrence limit of \$500,000.

Flying Sites Dictate Aircraft Size & Types Flown: Flying site size, location, overfly areas, obstructions, landing surface, surroundings, zoning requirements, abutting properties, and site owner requirements dictate what size and type of aircraft will be safe to fly and what won’t. AMA members may fly model aircraft that weigh as little as ½ ounce or as much as 100 lbs. Wingspans can vary from 3 inches to a 34 ft. soaring plane. Fixed-wing, rotary-wing, and multi-rotor and hybrid model aircraft are flown. Power systems range from micro electric motors, glow engines, 4 cylinder (200 cc, 20 hp.) gas engines and turbine engines producing more than 52 lbs. of thrust.