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Bend Aero Modelers

Flight Report

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Next Meeting

January 27, 2016
6:30pm At Black Bear Diner
Food Available
Come early to visit and eat!

FROM THE PRESIDENT

Message from the President

Dear Members & Interested Readers:

As Many of you know by now, my little buddy and our club mascot, **Diego** passed away on December 13th. He finally gave up the fight after a long battle with heart disease. My heart is still heavy, but the memories are sweat. The only enemy that Diego ever had was an empty bowl. He considered all of our club members as friends and he especially took a shine to you if you were eating. Thanks for being a friend to Diego (D).

As I look back over 2015, I am proud of the progress that we (as a flying club) have made. We made significant field improvements and repairs during the year and I am excited to see what the new year will bring. I am confident that our discussions will be lively as we explore "improvement" and "maintenance" options available to us in 2016. Please participate in the discussions during our January meeting on the 27th (Black Bear Diner), as we review and shape our 2016 budget. Together, we can continue to enjoy our flying experiences and friendships for years to come.

A challenge that was born in 2015 and will continue in 2016 and beyond, is our fight for our right to fly! Since our last newsletter, the FAA and DOT have announced their plans to require a national pilot registration. Though the FAA and DOT have not been authorized by the U.S. Congress to promulgate any new rules for recreational users, they (FAA & DOT) are forging ahead with a national registration initiative, designed to make our airspace a safer place. With the number of "close calls" between Unmanned Aircraft Systems (UAS) and people increasing at a rapid pace, the FAA felt it was necessary to act quickly. Effective December 21, 2015, anyone who owns a small unmanned aircraft weighing more than .55 lbs. (250 g) must register with the FAA's Unmanned Aircraft System Registry before they fly outdoors. The Academy of Model Aeronautics (AMA) are asking all of their members (that includes us) to hold off from registering until they have had a chance to explore all of their legal and political options. As AMA proceeds with this process, they are asking all members to hold off on registering their model aircraft with the FAA until advised by the AMA or until February 19, the FAA's legal deadline for registering. I urge all of you to look for new developments between now and February 19th.

I look forward to a great flying season here in Central Oregon in 2016.

Greg McNutt

BAM's 2015 Christmas Party

By Greg McNutt

We had another awesome Christmas Party on December 5, 2015. Once again, **Bob Read** hosted our event at his hangar at the Prineville Airport. You couldn't have asked for a more beautiful setting, as we all enjoyed a warm and inviting place to fellowship and share some great holiday food. We had another good turnout for this year's party. It was so popular that Santa even made an appearance. With an exception of only a few of our members, most everyone was on the "Good List" and received a warm welcome from Mr. Claus. A big "***Thank You***" goes out to everyone that contributed to this fun event. The food was fabulous and the conversation was lively. The gift exchange was popular again this year. The Ugly Sweater contest was fun as well. **Chris Shaker** and his guest, **Lauri** won the contest with "custom" made sweaters!

The READ Hangar is the cleanest hangar west of the Mississippi. Here, Bob's Beechcraft Bonanza, Lucille, patiently waits for her next adventure as the BAM crew enjoys the evening.

BAM Christmas Party

2015

BAM Christmas Party

2015

BAM Christmas Party

2015

From the Editor

By Bob Ingram

2016 has finally arrived

As the new year begins we will take a look at events that happened in 2015 that have not been included in previous newsletters.

And I ask all members to feel free in submitting pictures and stories during 2016. Without your contributions the BAM Newsletter would not exist.

First —The Christmas Party was a success as illustrated by the pictures.

Second—Show and tell at the November 2015 meeting

Third—a couple of articles that sprouted from Christmas gifts

So do not be shy, lets see those pictures and stories.

Remember the Editor can't be everywhere but someone is usually there to report that CRASH (take pictures, and tell who made it happen) or some other event.

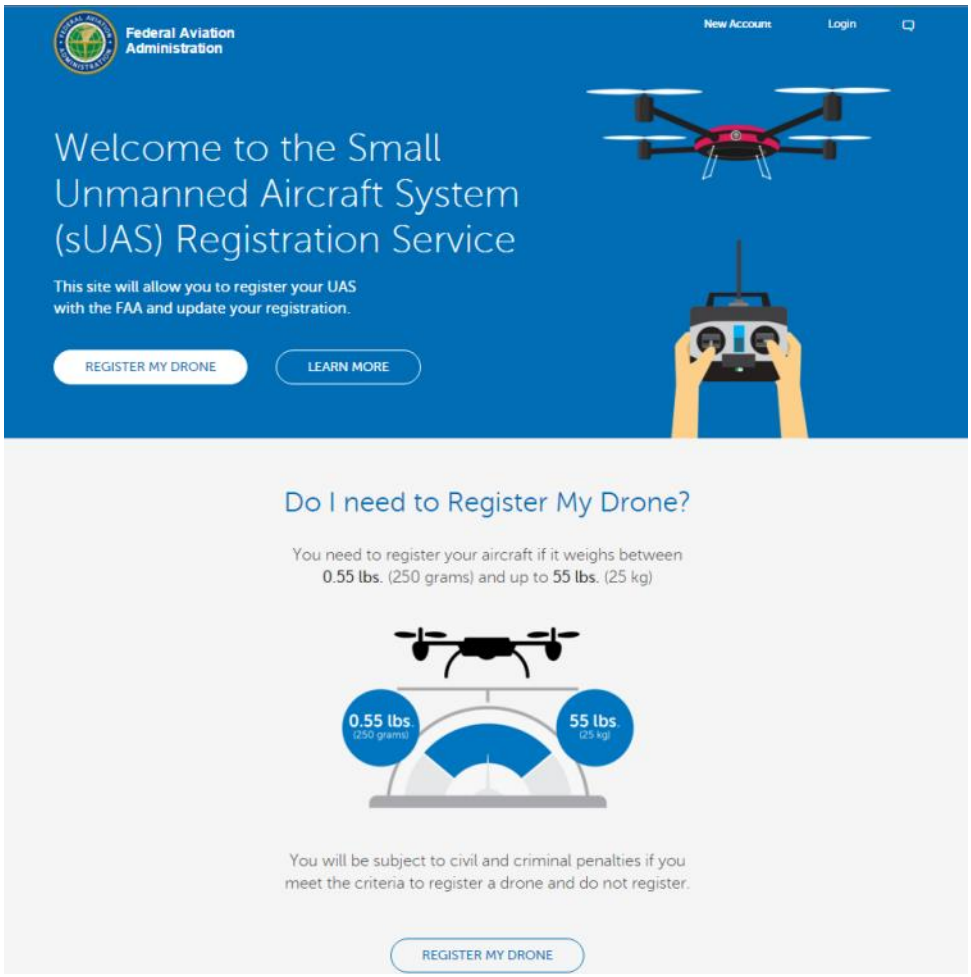
The next time you go to Popp's Field you will see something new. Dave Reiss created and contributed this new arch over the primary entry way. Thank You Dave.

Our Personal Responsibility to Practice Safety and Stay Informed

The FAA's recent decision to require registration as of December 21, 2015 of pilots flying any Unmanned Aircraft System (UAS) weighing more than 0.55 lbs. (250 g) has been received with a lot of anger and disappointment from our hobby community. It certainly feels that AMA's past efforts and emphasis of our track record as well as feedback from individual members has fallen on deaf ears with the FAA and caused a reversal of past positive progress.

In fact, it seems that FAA has made a desperate decision by requiring mandatory registration of ALL pilots flying UAS because of an increasing number of incidents. By abandoning the existing definition of a model aircraft and its operation and making weight the only criteria for the registration requirement, it feels like an arbitrary approach without effectively addressing a valid concern regarding public safety. It's also misleading that the FAA uses the term "drone" and depicts a multicopter to refer to all UAS, including what traditionally would be defined as a model aircraft.

The following image shows the registration start page:



Essentially, hobbyists who have safely flown model aircraft for years are now muddled together with those pilots that have been (intentionally or unintentionally) unsafe. Also, the FAA has not adequately clarified what the end goal of this registration process is and how it will address safety (if this is a goal).

This all-or-nothing approach raises several questions:

- How many of the recorded incidents actually involved AMA members vs. individuals that are new to the hobby and/or that operate their equipment outside a community-based organization such as a club?
- How many of these incidents involved flying at a dedicated flying site vs. a random location that is not specifically designed for UAS operation?
- How many of these incidents involved flying outside the definition of a model aircraft (e.g., beyond the visual line of sight, over people, over restricted areas, over structures, over 400 ft., near manned airplanes, etc.)?
- How many of these incidents involved multicopters (actual "drones") vs. traditional R/C model aircraft configurations?
- Is FAA actually interested in identifying the behaviors and profiles of violators to prevent incidents by developing meaningful requirements or is this an attempt to identify anybody who operates UAS equipment?

Following are UAS examples and registration criteria per FAA:

http://www.faa.gov/uas/registration/faqs/media/UAS_Weights_Registration.pdf

For AMA members, this registration requirement appears to be redundant because we are already on record and can be easily identified through our AMA number. If the majority of incidents is not caused by AMA members (I don't have the data to verify this assumption), then requiring only non-AMA members to register with the FAA could automatically separate the pool of pilots who operate their UAS outside an organized environment and as such are harder to identify otherwise (in theory). This would also make it easier for the FAA to establish specific requirements for this group of unorganized pilots to manage their knowledge about safety and regulations. The FAA already collaborates with AMA and would have access to its membership information.

Obviously this discussion would require further understanding of the incident data to make better recommendations for a more effective approach. However, as it stands and based on the FAA's current direction it feels like a desperate decision without a clear indication that the registration would minimize the number of incidents or at least raise awareness among unorganized hobbyists and change unsafe behaviors.

Personally, I always felt that people with a common sense of accountability will try to be responsible. Incidents can and will happen, but there is a difference between incidents caused by not knowing better and incidents caused by being purposefully careless. The latter behavioral type will always have a disregard for any rules and safe practices—it's a lifestyle decision and an attitude issue rather than a lack of knowledge. Irresponsible behavior cannot be fixed through a registration process because we will not know who the violators are until they are caught in the act. It is impossible to enforce responsibility—it is a personal decision.

Therefore, I believe that the FAA would be better off investing its efforts into education and defining requirements for manufacturers and retailers to contribute to the responsible operation of UAS equipment. It will at least capture the pool of hobbyists who want to be responsible and just need the right information and education. Some of the current initiatives (collaboration between the stakeholders) to promote safer flying are definitely helpful. And perhaps the actual objective of the registration process is to give FAA and the legal system different options to prosecute violators.

It is very easy to buy a UAS and walk out the door without any understanding of regulations and safety training. It also does not help that multicopters ("drones") are promoted as an easy to fly "toy" that one can fly anywhere. In fact, I have seen ads on TV that demonstrated several UAS applications that violate current regulations and the privacy of people. Such ads are irresponsible and illustrate the lack of accountability some manufacturers have for public safety and the hobby as a whole. And it makes me wonder how much some manufacturers or retailers actually know about existing regulations.

Being a member of AMA or similar community-based organizations can help, but it does not need to be a requirement as a way to instill safe practices into the unaffiliated hobbyist. A certification after taking a voluntary safety test could provide written evidence and personal assurance that a person is aware and understands current rules and practices (a sort of "terms and conditions" agreement). Clubs such as BAM, hobby stores, and manufactures could help FAA and AMA promote awareness at the local level. Our quarterly intro course about R/C flying is an attempt to raise awareness and directly impacts the future of our hobby. It will not completely prevent unsafe behaviors, but we can at least reach out to hobbyists and direct them accordingly before they cause preventable incidents.

This debate also raises the question regarding our (AMA members) personal responsibility to routinely check with AMA's safety rules and the many publications that are available via AMA's website. One might ask, when was the last time I have actually looked at the library of AMA safety documents?

There are quite a few. Some publications are more general and some are specific to airplane types and application (activity/event).

Following is an overview (and links) of safety-related **AMA documents** accessible via AMA's website.

General Flight Safety

- Publication # 105: Official AMA National Model Aircraft Safety Code
  http://www.modelaircraft.org/files/105.pdf
- Publication # 106: National Flying Site Rules
  http://www.modelaircraft.org/files/106.pdf
- Publication # 535-B: Flying Site Safety and Operational Rules
  http://www.modelaircraft.org/files/535-b.pdf
- Publication # 540-C: FAA Advisory Circular
  http://www.modelaircraft.org/files/540-c.pdf
- Publication # 540-D: "See and Avoid" Guidance
  http://www.modelaircraft.org/files/540-D.pdf
- Publication # 706: Recommended RC Flying Site Specifications
  http://www.modelaircraft.org/files/706.pdf
- Publication # 928: Operation of Radio Control Flying Sites
  http://www.modelaircraft.org/files/928.pdf

Turbine/Pulsed Jet Flight Operation

- Publication # 510-A: Safety Regulations for Model Aircraft Powered by Gas Turbines
  http://www.modelaircraft.org/files/510-a.pdf
- Publication # 510-C: AMA Rules for Design, Construction, and Operation of Non-Production Gas Turbine Engines for R/C and CL Models
  http://www.modelaircraft.org/files/510-c.pdf
- Publication # 510-Q: Safety Regulations for Radio Controlled Pulsed Jet Engines
  http://www.modelaircraft.org/files/510-q.pdf

Helicopter Flight Operation

- Publication # 550: Metal Blade Usage for Model Helicopters
  http://www.modelaircraft.org/files/555.pdf

Giant Scale Flight Operation (planes weighing over 55 lbs.)

- Publication # 515-A: Required Safety Standards for Giant Scale Racing
  http://www.modelaircraft.org/files/515-a.pdf
- Publication # 520-A: AMA Large Model Airplane Program Requirements and Inspector Information
  http://www.modelaircraft.org/files/520-a.pdf

Combat Flight Operations

- Publication # 525: Safety Code for Radio Control Combat
  http://www.modelaircraft.org/files/525.pdf
- Publication # 530: Safety Code for General Radio Control Racing
  http://www.modelaircraft.org/files/530.pdf
- Publication # 540-A: AMA Indoor RC Guidelines
  http://www.modelaircraft.org/files/540-a.pdf

FPV Flight Operation

- Publication # 550: First Person View (FPV) Operations
  http://www.modelaircraft.org/files/550.pdf
- Publication # 551: First Person View (FPV) Operations for Indoors
  http://www.modelaircraft.org/files/FPVIndoor.pdf
- Publication # 560: RC Operation Utilizing Failsafe, Stabilization and Autopilot Systems
  http://www.modelaircraft.org/files/560.pdf
- Publication # 570: Advanced Flight Systems FAQs
  http://www.modelaircraft.org/files/570.pdf

Be safe and responsible,

Waldemar Frank

New Members

During the month of December, BAM had not received any new members.

With Waldemar's upcoming class at COCC, BAM will most likely obtain a few more members.

REMINDER: It is renewal time for AMA and BAM membership.

What else is happening

Well … one of our members has taken flying to a whole new level … Galen Ruud has progressed from flying RC planes for full size planes. Galen said it was kind of a Christmas present … at least it fell in the same time of year. He went on to say that if he hadn't started flying RC and joined BAM it most likely wouldn't have happened.

He was gifted an opportunity to obtain his private pilots certificate and an IFR certificate too. The picture Galen provided is the apron of the flight school he is attending at UCDavis. Most of the time he has managed to spend time in the Cessna 172SP and he says it is a beast. He said … "When doing a power-on stall I swear I can almost hover the thing. Its great fun!" By the time you read this news Galen will have completed his extended cross country with his instructor and moved onto solo flying. It is all about hours now.

Dave Lawler has been building a BVM Bobcat Turbine Powered jet for about the last 6 years. It is powered with a JetCat P-70 Turbine. Dave said it should be ready for a maiden this spring. For Christmas Santa got Dave a Kero Start upgrade for the turbine which allows the turbine to be started with its Jet A1 fuel instead of having to startup on propane and then switching to jet fuel once it lights up. The benefit was the deletion of a whole bunch of plumbing and allowing more room inside for the electronics. Dave will bring this plane to show and tell when it is done. We all look forward to seeing it fly.

Show & Tell

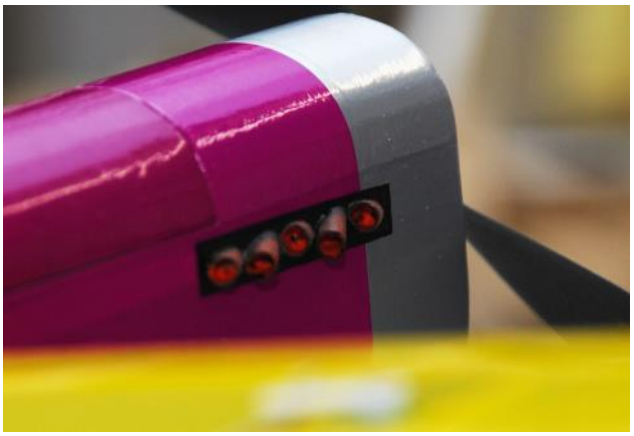
I expect Show and Tell to be a part of the BAM Newsletter. With that being said, there is a need for pictures and information about each Show and Tell.

For the November 2014 meeting … Tom Schramm and Tom Rose both had nice airplanes for show and tell. Tom Schramm had a nice looking e'Moth kit that he built. Tom Rose had a nice bind and fly model. Both will be wonderful airplanes to see in the air.

e'Moth

The electric "e'Moth" is a quality laser cut kit produced by Retro RC (www.RetroRC.us.com) that comes in a plastic bag 24" long, 4" wide and a good inch thick. Contains instruction manual, 13 sheets of balsa, 2 sheets plywood, a few loose balsa parts, windshield, pushrods with housings, necessary hardware, wheels & axle, rubber bands for axle suspension, pilot and scarf material. There are a total of 250 wood parts of which 245 were used. Builder needs to provide glue, covering material, radio and power systems. No plans are included as the parts fit are excellent as is the 26 page photo enhanced instruction manual. This is not a beginner's kit, but one with prior building experience will enjoy the build.

Wingspan is 32.3" and an area of 340 sq. in. Wings and tail feathers are removable for flat storage in a small suitcase of box. A unique feature of the e'Moth is the wing "plug in feature" to provide two different angles of attack (don't go there guys, both wing halves set at same angle of attack, but would be interesting with them at different angles). One position for faster flight and better wind penetration, the second for slower more relaxed flights.



Covering is transparent yellow Monokote on wings, stab and elevator. Fuselage and rudder covered in purple Ultracote with silver and red iron on trim. Power system is an outrunner and ESC from the GP Super Sportster foamie pylon racer the club fly's. Battery is a 3S 1300 mAh lipo, and guidance by Futaba 2.4 MHz with four Hitec HS-55 servos,. Ready to fly weight is 18 oz. or about an ounce and a half less than the GP Super Sportster. Took me two weeks to complete the model and I added five exhaust stacks to represent a 5 cylinder in-line engine. The included pilot was painted by my wife to represent a 30's 'Flapper Girl'.

Looking for calm weather for the maiden fright.

Tom Rose has a nice electric T-28 Trojan with a 48” wing span that is a BNF (bind and fly) from E-flite of Horizon Hobby. Included are flaps and retractable landing gear. Tom hopes to maiden this plane soon. This is a much larger version than the normal T-28’s we have been seeing at Popp’s Field flown by Greg, Waldemar and others.

This plane includes …

- AS3X technology for rock solid flight stability
- Electric retracts
- 15 size brushless motor
- 40amp ESC
- 3S 11.1V 2200 mAh LiPo battery for power
- Uses a 3 bladed prop

BAM Field Safety Guidelines

GENERAL

All pilots shall be current members of AMA. Proof of current AMA membership is required prior to flying at BAM.

Visiting AMA pilots and new members of BAM shall receive a safety orientation by one of BAM's Safety Committee members prior to their first flight.

Pilots shall ensure flight operations in accordance with AMA's Safety Code and these Field Safety Guidelines at all times.

Pilots shall ensure proper operation of their aircraft and associated equipment prior to use.

Pilots shall show courtesy towards others and apply common sense when flying at BAM.

Pilots are encouraged to verbally enforce safe flying practices as appropriate.

All guests, spectators, children, and pets shall be supervised by a BAM member at all times while inside the flying field and are encouraged to remain behind the pit tables.

When working on armed aircraft in the pit area, pilots shall always secure/restrain the aircraft from moving on the ground or rolling off a work bench/pit table.

R/C cars and other surface vehicles are prohibited anywhere inside the flying field.

Smoking is prohibited anywhere inside the flying field and shall be carried out in a safe and respectful manner in the parking lot.

The consumption of alcoholic beverages before or during flight is prohibited.

PRE-FLIGHT OPERATION

Pilots that use AM/FM radio equipment (50 MHz, 53 MHz, and 72 MHz) shall attach the appropriate frequency pin visibly to their transmitter's antenna whenever it is in use.

Pilots shall place their AMA card on the respective channel pin on the frequency board.

Pilots shall restrain their aircraft during the start-up (combustion engines) or arming process (electric motors).

Pilots shall use one of the designated run-up stands for the start-up and arming process as appropriate for the type and size of aircraft.

For larger or electric-powered aircraft, pilots may use the taxiway instead to start up or arm their aircraft while keeping it restrained with the help of another pilot, helper, or tethered to the ground or safety fence.

For extended engine tuning and troubleshooting procedures (e.g., more than usually needed to start the engine), pilots shall use one of the run-up stands designated (marked) for tune-ups, break-in and troubleshooting.

Pilots shall never leave their aircraft unattended while the aircraft is running or armed even if it is secured and restrained.

FLIGHT OPERATION

Pilots shall only taxi aircraft on the taxiways and runway. No taxiing is permitted in the pit area.

While flying, pilots must remain behind the safety fence and never block the taxiways.

Pilots shall verbally communicate their intentions during takeoffs, landings, and emergencies.

Pilots shall always fly their aircraft north of the centerline of the runway and remain within the approved fly zones (see fly zone map for details).

Only pilots and a supervised helper are permitted beyond the safety fence (e.g., to retrieve an aircraft).

Landing aircraft have the right of way. Dead-stick landings shall be called as such and given immediate right of way.

Pilots shall announce low passes, touch-and-gos, and hovering directly near or above the runway.

Pilots shall not take off from or land on the taxiways. This applies to all aircraft types, including rotary-wing and micro aircraft.

No more than five (5) aircraft shall be in the air at one time. This includes rotary-wing and micro aircraft.

Pilots shall call all maiden flights prior to flight. All other aircraft shall be grounded until the maiden flight has been completed.

All hand launches shall be called to alert other pilots. Hand launches shall be performed either from the runway or the area between the runway edge and the safety fence.

Academy of Model Aeronautics National Model Aircraft Safety Code

Effective January 1, 2014

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, education 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:
   (a) In a careless or reckless manner.
   (b) At a location where model aircraft activities are prohibited.
2. Model aircraft pilots will:
   (a) Yield the right of way to all human-carrying aircraft.
   (b) See and avoid all aircraft and a spotter must be used when appropriate. (AMA Document #540-D.)
   (c) Not fly higher than approximately 400 feet above ground level within three (3) miles of an airport without notifying the airport operator.
   (d) Not interfere with operations and traffic patterns at any airport, heliport or seaplane base except where there is a mixed use agreement.
   (e) Not exceed a takeoff weight, including fuel, of 55 pounds unless in compliance with the AMA Large Model Airplane program. (AMA Document 520-A.)
   (f) Ensure 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.)
   (g) Not operate aircraft with metal-blade propellers or with gaseous boosts except for helicopters operated under the provisions of AMA Document #555.
   (h) Not operate model aircraft while under the influence of alcohol or while using any drug that could adversely affect the pilot's ability to safely control the model.
   (i) Not operate model aircraft carrying pyrotechnic devices that 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.)

   (j) 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:
   (a) The aircraft, control system and pilot skills have successfully demonstrated all maneuvers intended or anticipated prior to the specific event.
   (b) An inexperienced pilot is assisted by an experienced pilot.
4. 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)**

1. All pilots shall avoid flying directly over unprotected people, vessels, vehicles or structures and shall avoid endangerment of life and property of others.
2. 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.
3. At all flying sites a safety line(s) must be established in front of which all flying takes place. (AMA Document #706.)
   (a) Only personnel associated with flying the model aircraft are allowed at or in front of the safety line.
   (b) At air shows or demonstrations, a straight safety line must be established.
   (c) An area away from the safety line must be maintained for spectators.
   (d) Intentional flying behind the safety line is prohibited.
4. 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.
5. RC model aircraft will not knowingly operate within three (3) miles of any pre-existing flying site without a frequency-management agreement. (AMA Documents #922 and #923.)
6. 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 flightline.
7. Under no circumstances may a pilot or other person touch an outdoor model aircraft in flight while it is still under power, except to divert it from striking an individual.
8. RC night flying requires a lighting system providing the pilot with a clear view of the model's attitude and orientation at all times. Hand-held illumination systems are inadequate for night flying operations.
9. The pilot of an RC model aircraft shall:
   (a) Maintain control during the entire flight, maintaining visual contact without enhancement other than by corrective lenses prescribed for the pilot.
   (b) Fly using the assistance of a camera or First-Person View (FPV) only in accordance with the procedures outlined in AMA Document #550.
   (c) Fly using the assistance of autopilot or stabilization system only in accordance with the procedures outlined in AMA Document #560.

C. **FREE FLIGHT**

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

D. **CONTROL LINE**

1. The complete control system (including the safety thong where applicable) must have an inspection and pull test prior to flying.
2. The pull test will be in accordance with the current Competition Regulations for the applicable model aircraft category.
3. Model aircraft not fitting a specific category shall use those pull-test requirements as indicated for Control Line Precision Aerobatics.
4. 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.
5. The flying area must be clear of all nonessential participants and spectators before the engine is started.