IMAA SAFETY CODE

(Revised 01/31/2003)

SECTION 1.0: SAFETY STANDARD

1.1 Adherence to Code: The purpose of this Safety Code is to provide a structure whereby all participants, including spectators, will be aware of the inherent dangers in the operation of radio controlled aircraft. This code is meant to serve as a minimum guideline to all participants. It is understood that the ultimate responsibility for the safety of any aircraft lies with the owner(s), pilot(s) and spectator(s) involved in any event. It is the responsibility of all participants to exercise caution when operating, or observing the operation of all radio controlled aircraft. The pilot/owner of an aircraft will not be dissuaded from taking whatever steps they deem necessary, in addition to this code, to insure that their aircraft is safe.

1.2 The most current AMA Safety Code in effect is to be observed.

1.3 It is the responsibility of the Safety Officer to inform all participants, including spectators, of the dangers involved in the operation of radio controlled aircraft. Announcements are to be made at regular intervals to remind all individuals of the necessity of being observant, and on the alert for any problems with an aircraft.

SECTION 2.0: SAFETY OFFICER

2.1 Each IMAA sanctioned event will appoint a Safety Officer. The Safety Officer will appoint a Safety Committee who will be responsible for assisting pilots with their safety review of their plane. The Safety Committee has the right to ground a plane should the pilot not perform the required safety review. The Safety Officer, as assisted by the Safety Committee will also be responsible for the transmitter impound, crowd control, and assisting all participants in order to provide for a safe and enjoyable event.

2.2 The Safety Officer(s), required by this Safety Code, are to help and assist the pilot (or owner), and are not to determine the technical airworthiness of a model, or the competence of the pilot. It is the responsibility of the pilot (or owner), and theirs alone, for a safe model and a safe flight.

2.3 The Owner/Pilot agrees to abide by the most current AMA Safety Code as described in Section 1.2

SECTION 3.0: SAFETY REVIEW

3.1 All pilots must perform a Safety Review in the presence of a member of the event's safety committee.

3.2 The IMAA has an official Safety Review Form that is to be used for the purpose of inspecting aircraft for any deficiencies/requirements. It shall be completed and signed by the pilot in the

presence of a member of the event's Safety Committee. Copies of the IMAA Safety Review Form are available from the District Director or IMAA Sanction Coordinator.

3.3 After completing a Safety Review, the aircraft may be flown as often as the pilot desires, provided that they follow the chosen frequency control standard. However, if the airplane is involved in an accident, no matter how minor, and the pilot wishes to fly again, the aircraft shall go through another Safety Review.

3.4 Flight Testing: All aircraft are to have been flight tested and flight trimmed with a minimum of six (6) flights before the model is allowed to fly at an IMAA Sanctioned event.

3.5 Proof of Flight: The completing and signing of the Declaration section of the Safety Review form (see Section 3.2) by the pilot (or owner) shall document, as fact, that the noted aircraft has been successfully flight-tested and proven airworthy prior to the IMAA event.

Section 4.0: SPOTTER / HELPER

4.1 Spotter/ Helper Definition: An assistant to aid the pilot during start-up, and taxing onto the runway. The spotter/helper will assist the pilot in completing a safe flight.

4.2 Each pilot is required to have a spotter / helper at all IMAA sanctioned events. The event Safety Committee should be prepared to assist those pilots who do not have a spotter/helper to make sure that every registered pilot has the opportunity to fly at a sanctioned event.

SECTION 5.0: EMERGENCY ENGINE SHUT OFF (Kill Switch)

5.1 Magneto spark ignition engines must have a coil-grounding switch on the aircraft to stop the engine. This will also prevent accidental starting of the engine. This switch shall be readily available to both pilot and spotter/helper. This switch is to be operated manually and without the use of the Radio System.

5.2 Engines with battery powered ignition systems must have a switch to turn off the power from the battery pack to disable the engine from firing. This will also prevent accidental starting of the engine. This switch shall be readily available to both pilot and spotter/helper. This switch shall be operated manually and without the use of the Radio System.

5.3 There must also be a means to stop the engine from the transmitter. The most common method is to close the carburetor throat completely using throttle trim, however other methods are acceptable. This requirement applies to all glow/gas ignition engines regardless of size.

SECTION 6.0: RADIO REQUIREMENTS

6.1 All transmitters must be FCC type certified.

6.2 FCC Technician or higher-class license required for 6 meter band operation only.

SECTION 7.0: MAXIMUM AIRCRAFT ALLOWANCES

7.1 IMAA aircraft weight is not to exceed 55 pounds, including a full load of all liquids (engine fuel, smoke fluid, etc.)

7.2 The Academy of Model Aeronautics, in conjunction with IMAA has developed an Experimental Aircraft category that covers models over 55 pounds (including all liquids), but not to exceed 100 pounds (including all liquids). If the host Chapter decides to allow these heavier aircraft that exceed Section 7.1 to be flown at their event, then the current AMA Experimental Radio Control Aircraft Program Requirements and Inspector Information approved by AMA Executive Council, May 4, 2002 shall apply during the demonstration flying of these aircraft. (Copies of the Experimental Class Rules and Regulations are available through the AMA.)

7.3 The operation of aircraft using turbo jet engines will require a special waiver as stipulated by the AMA Safety Code. The waiver is to be provided at the time that the pilot completes their Safety Review.

SECTION 8.0: FLYING SITE LAYOUT

8.1 The flying site shall be set up to provide, at minimum, the AMA standard of 65 feet from the near edge of the runway to the beginning of the spectator area, and where possible, a distance of 100 feet or more is recommended.

8.2 A specific area will be set aside for engine test runs. This area will be remote from the spectator area, pits, and flight stations to reduce danger and annoyance to persons in this area. No engine may be started in any area other than the engine test area and runway entrance(s).

The following recommendations are included in the Safety Code not to police such items, but rather to offer basic suggestions for enhanced safety. It is expected that IMAA members will avail themselves of technological advances as such becomes available, to promote the safety of all aircraft and participants.

Servos need to be of a rating capable to handle the loads that the control surfaces impose upon the servos. Standard servos are not recommended for control surfaces. Servos should be rated heavy-duty ounces of torque. For flight-critical control functions a minimum of 45 inch/ounces of torque should be considered. This should be considered a minimum for smaller aircraft and higher torque servos are strongly encouraged for larger aircraft. The use of one servo for each aileron and one for each stabilizer half is strongly recommended. Use of dual servos is also recommended on larger aircraft.

On-board batteries should be, at a minimum, 1000 maH up to 20 lbs., 1200 maH to 30 lbs., 1800 maH to 40 lbs., and 2000 maH over 40 lbs. flying weight. The number and size of servos, size and loads on control surfaces, and added features should be considered as an increase to these minimums. Batteries should be able to sustain power to the onboard radio components for a minimum of one hour total flying time before recharging.

Dependable redundant and fail-safe battery systems are recommended.

The use of anti-glitch devices for long leads is recommended.

There is no maximum engine displacement limit, as it is the position of this body that an under powered aircraft presents a greater danger than an over powered aircraft. However, the selections of engine size relative to airframe strength and power loading mandates good discretionary judgment by the designer and builder. Current AMA maximums for engine displacement are 6.0 cu. in. for two-stroke and 9.6 cu. in. for four-stroke engines. These maximums apply only to AMA Sanction competition events such as 511, 512, 515 and 520. All non-competition events should be sanctioned as Class C events, in which these engine size maximums do not apply.

Generally, it is recommended that no attempt should be made to fly a radio controlled model aircraft with a gasoline engine in which the model aircraft weight would exceed 12 pounds per cubic inch of engine displacement (under powered), or be less than 5 pounds per cubic inch of engine displacement (overpowered). Example: Using a 3 cu. in. engine, a model would likely be under powered at an aircraft weight greater than 36 pounds. With the same engine, an aircraft weighing less than 15 pounds would likely be overpowered.

Servo arms and control horns should be rated heavy duty. Glass filled servo arms and control horns are highly recommended.

Control surface linkages are listed in order of preference:

1. Cable system (pull-pull). A tiller bar is highly recommended along with necessary bracing.

2. Arrow-shaft, fiberglass or aluminum, 1/4" or 5/16" OD. Bracing every six (6) to ten (10) inches is highly recommended.

3. Tube-in-tube (nyrod). Bracing every few inches is highly recommended. Inner tube should be totally enclosed in outer tube.

4. Hardwood dowel, 3/8" OD. Bracing every six (6) to ten (10) inches is highly recommended.

Hinges should be rated heavy duty and manufactured primarily for use in giant sized aircraft. Homemade and original design hinges are acceptable if determined to be adequate for the intended use.

Clevis (steel, excluding heavy-duty ball links) and attachment hardware should be heavy-duty 4/40 thread and rod type. 2/56 thread size rod is acceptable for some applications (e.g. throttle). Clevises must have lock nuts and sleeve (fuel tubing) or spring keepers.

Propeller tips should be painted or colored in a visible and contrasting manner to increase the visibility of the propeller tip arc.

BIG IS BETTER