

# Academy of Model Aeronautics

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## REQUIRED SAFETY STANDARDS FOR GIANT SCALE RACING

Approved by Executive Council Action of July 25, 1995  
Amended by EC on April 29, 2006 (as noted in bold)

### Minimum Course/Site Measurements

Deadline to Spectators	400 feet
Deadline to Pylon Judges	350 feet
Deadline to Lap Counter/Timers	300 feet
Deadline to pylon center line	200 feet
Deadline to Rear Deadline	1250 feet
Racing <b>Boundaries Line</b> to Pilots	50 feet
<b>Deadline to Pilot Stations</b>	<b>15 feet</b>

### General

1. There must be an individual pilot barrier system such as a stack of hay bales arranged to form a barricade against errant aircraft.
2. There must be a closed flight line with a system to regulate access during racing operations.
3. All aircraft must have been successfully flown prior to racing. Each aircraft will have a logbook issued with identifying serial numbers upon airframe certification, which will serve as a permanent historical record of that airframe. This logbook must be kept up to date and is to be presented with the aircraft for any required inspection. The logbook remains valid for the life of the airframe and is to be transferred with the aircraft in the event of sale. Pre-race airframe safety inspections and radio range verification check shall be noted in the logbook, as well as any damage affecting airworthiness and the corresponding corrective repairs. Pictures in the logbook are to reflect the current paint or color scheme used on the aircraft, including the race number.
4. Aircraft must pass a technical inspection for safety including a radio range check with the engine running. All inspections will be recorded in the aircraft's logbook.
5. Damaged aircraft must pass a technical re-inspection including a radio range check with the engine running. All damage, repairs, and re-inspections will be recorded in the aircraft's log book.
6. There must be a frequency impound with a system of verifying where transmitters are at all times.
7. There must be a flight line system to identify those persons allowed on the flight line such as wristbands or vests. Only essential personnel and contestants will be allowed beyond the spectator area.

## General continued

8. No smoking is allowed within 50 feet of **full scale** aircraft or **any** designated fueling area.
9. All other pertinent AMA rules apply.

## Aircraft and Pilots

1. Maximum **model aircraft** weight, **with fuel**, is 55 lbs.
2. Care should be taken to select a power plant of reasonable weight and power for the size, strength, and weight of the aircraft.
3. Engine weight on a single engine aircraft may not exceed 14 lbs. Total engine weight on a multiple engine aircraft may not exceed 19 lbs. (excluding exhaust and ignition system).
4. Metal propeller blades may not be used.
5. All engines must be able to be shut off from the transmitter by either a servo operated kill switch or by closing the carburetor. All aircraft with ignition engines must have a manual emergency ignition kill switch visibly mounted on the exterior of the aircraft.
6. Gear must be of sufficient size and strength to allow aircraft to taxi to runway from the staging area, take off, land and taxi to recovery in a reliable manner.
7. **Nose or tail wheel steering capability is required.**
8. All aircraft/pilot combinations must exhibit predictable handling characteristics on the race course and on the ground.
9. Erratic or unsafe aircraft operation while on the ground or in the air, are cause for disqualification at the discretion of the Contest Director. Other infractions that are cause for disqualification include; Dead-line violations; Unauthorized maneuvers; Extremely low flying; Over-aggressive flying that could result in midair contact with another aircraft; Midair contact with another aircraft at any time during the pre-race and race periods (including aircraft hit by debris).
10. Fire extinguishers must be stationed at the flight line and designated fueling area during racing operations.
11. Any fuel may be used with the exception that hydrazine, nitrobenzene, or tetranitromethane fuel additives are **prohibited**. **Nitrous oxide systems are not allowed.**
12. Aircraft shall be fabricated in a sound manner utilizing quality workmanship.
13. All **engine and airframe control** systems shall be in working order and exhibit reliability **in use**.
14. Each flight control surface shall be powered by servos of sufficient size torque for the size, weight and speed of aircraft and in any case shall not be less than 69 in-oz torque rated.
15. Elevators must use one servo that meets or exceeds a 105 in-oz torque rating or two servos that each meet or exceed a 69 in-oz torque rating.
16. If using one servo to operate both ailerons, that servo must meet or exceed 105 in-oz torque rating.
17. All pushrod linkages and cable connectors must be a minimum 4-40 screw or the metric sized equivalent. Long pushrod runs will be braced for support to prohibit pushrod flexure. Flexible pushrods (NyRod) of any size are not permitted for actuation of primary flight control surfaces.
18. **The aircraft radio control** system shall be powered by **at least one battery pack with a rated capacity equal to or greater than 200 MAH per servo.**

## Aircraft and Pilots continued

19. All major flight control servos and actuators must be made visible for inspection.
20. Hinges, horns, etc. shall be of sufficient size and strength and should have minimum play.
21. Each clevis must have some kind of “keeper mechanism”.
22. Slip-type connectors with a set screw (such as EZ connectors) may not be used on primary flight control surfaces.
23. Engines **shall** be secured in a secondary manner to a **strong** airframe component **by means** of a cable or safety strap of at least 200 lbs tensile strengths.
24. Pilots **are** required to demonstrate competency during all phases of racing operations. Competency will be judged by **the Contest Director and infractions by the pilot may result in disqualification.**

## [Giant Scale Racing Diagram](#)