

Aerial Scramble- Trial Flight Event

1. **Description:** At the Tournament, teams will assemble, test fly and compete with up to two aircraft using a standardized kit (such as the AMA Alpha). Only the materials of each **unopened kit** may be used on the aircraft. Teams can provide their own rubber motors that will not exceed 2 grams each. Note that for regional competitions, competitors bring two unopened kits for inspection and their use.

Organizers will stipulate the airplane kit to be used in competition at least 2 weeks previous to the competition. **Only kits that by design, are assembled without adhesives and can be disassembled to fly again will be accepted. All teams must use their state's standardized kit.**

Team: of Up to 2 students. **Impound:** None, **Time:** 60 minutes or less. Organizers will schedule hour time slots for no more than 10 teams to compete. First 30 minutes to complete primary check-in, model assembly and trim flights. Final 30 minutes for 2 official flights accomplished in 2-3 person mass launches within a 4 minute scheduled window.

2. **Event Parameters :**

- a. Teams may bring their own tools in one clear sided container (w/ a footprint no more than 12" x 12" approx.) Items allowed- are winders, assembly tools, fixtures (freestanding from airplanes), sandpaper, cutting boards, adhesive systems, thread, pins, tape, wax paper, rubber o-rings for motors, clay and logbook. Not Allowed- Boron, Carbon Fiber, Extra Wood or Foam Plastic Materials. Work boards and wax paper must be used to cover any and all work surfaces. **These are considered separate from the contents of the tool box. Any team not using a cutting board will receive a 20% deduct on their final score.**
- b. At the State and National Competitions, Organizers will provide all airplane kits for official distribution.
- c. Students will be allowed a minimum of 20 minutes before their official time-slot window to build and test their models. Multiple models can test fly in this period.
- d. Each team is responsible for their work site. Any debris must be disposed of, the site cleaned and inspected before official flights are attempted.
- e. Teams will be allowed to attempt two (2) official flights for scoring.

3. **Construction Parameters:**

- a. At the State and National competitions, students will choose two kits for their team from a provided selection of unopened standardized kits (such as the AMA Alpha).
- b. At the regional competitions, competitors will bring two unopened kits for inspection and their use.
- c. Only those materials found as part of the two kits will be allowed in model assembly. Glue, tape, pins or clay ballast may be added by teams and are considered as parts of each model.
- d. The stock rubber motor may be replaced by other rubber elastic loops.
- e. Total mass must be more than 10.0 grams and cannot exceed 15.0 grams for model without motor.
- f. The wingspan cannot exceed 50.0 cm.
- g. Airplanes must use the propeller provided in the kit and not exceed 14 cm in diameter.
- h. The rubber motor cannot exceed 2 grams. Motors may have rubber o-rings and be lubricated after check-in.
- i. Airplanes will be labeled in such a way that can be identified by the students in reference for their logbooks.

4. **The Competition:**

- a. The event must be held indoors. Tournament officials must announce the room dimensions (approx. length, width and ceiling height) in advance of the competition. Tournament Officials and Event Supervisors are urged to minimize the effects of environmental factors such as air currents. Rooms with minimal ceiling obstructions are preferred over very high ceilings.
- b. **Primary Check-In:** Once competitors enter the cordoned off competition area, they must-

- 1) Sign-In and then be scheduled, in sequence of their arrival, the first through last time-slot window for official flights and receive/inspect their two airplane kits. Event supervisors will designate the dispersal of these kits.
 - 2) Teams will then submit their First-Aid Kit for inspection (see 2a above). ***Students must show officials that they have a first-aid kit (minimum of 3 band aids) or deduct 10% from final score.***
 - 3) The team members remain in the competition area until their official flights are completed. ***No Outside assistance is allowed.***
 - 4) Teams will assemble up to two airplanes from the two kits and proceed to test/trim fly their models. The first thirty minutes of the hour include check-in, model construction and flight trimming.
 - 5) At the Event Supervisor's Discretion:
 - Test Flights may occur throughout the contest but will yield to official flights.
 - Teams ready early can proceed to make their official flights in sequence.
 - No Test Flights may occur in the last half hour of the event.
 - 6) A self-check inspection station may be made available to competitors for checking their airplanes prior to the Secondary Check-In for their Official Flights.
 - 7) Competitors may use any kind of winder, but electricity may not be available.
- c. Secondary Check-in and Official Flights: Competitors must present up to two airplanes, their logbook, and up to 4 motors for Inspection during the Secondary Check-In immediately prior to their 2 official flights. ***Logbooks must describe 4 tasks that were used in either model construction or test flying the model and may contain data prior to the competition.***
- 1) Timers must follow and observe teams as they are winding their motors. All motors that meet specifications will be collected by timers at check-in and will be made available to the teams for their official flights.
 - 2) Teams may make up to two (2) official flights using 1 or 2 airplanes.
 - 3) After Secondary Check-in, teams will be taken in groups of 2 or 3 to make official flights.
 - 4) Teams will be instructed to put their airplanes on the floor then asked to pick them up. When picked-up, teams will have one minute to wind airplanes.
 - 5) In the last 10 seconds of that minute, a timer will audibly announce the countdown. At," 3-2-1 Launch!" all model in the group will be launched and timed independently.
 - 6) When the last model lands, teams will again be instructed to pick-up their models starting a one minute countdown for the second official flight. These flights will be timed to conclusion.
 - 7) Time aloft for each flight starts when the model leaves the competitor's hands and stops when any part of the model touches the floor, the lifting surfaces no longer support the weight of the model (such as the airplane landing on a girder or basketball hoop) or the judges otherwise determine the flight is over.
 - 8) In an unlikely event of a collision, the two teams involved will re-fly the round.
 - 9) Timers must record (the median of all timers) each official flight time.
5. Scoring: The final score is made by adding the two flight times together. Ties will be broken by the longest single official flight time per team.

This Event is sponsored by the Academy of Model Aeronautics