

Syracuse Rocket Club

July 21, 2018

Plastic Model Conversion

1. Contestant shall construct and fly a model rocket that has been assembled from a commercially available plastic model kit of a guided missile, rocket vehicle, space vehicle, jet or fantasy/sci-fi space vehicle. The model must be one that the manufacturer did not produce as a model to be flown; and it must be modified for safe and stable flight by the contestant. The purpose of this competition is to produce a flying model from a kit originally intended as a static model that shows maximum craftsmanship in construction, finish, and flight performance. The entry must be representative of the kit chosen, as designed by the manufacturer. It is not the purpose of this competition to allow entries which represent original and/or imaginative designs on the part of the contestant that incidentally are executed using parts from plastic kits as a basis.
2. Construction: With the exception of modifications necessary to convert the model for flight, the basic structure and configuration of the model must be as designed by the manufacturer of the kit. Details may be constructed from parts obtained from other commercially available plastic kits, from plastic sheet, tubing, or shapes, and other materials as desired. Parts and assemblies necessary to convert the model for flight may be made of any safe material, and may be obtained from any source.
3. For stability purposes, the model may be fitted with transparent plastic fins to make it stable in flight; however the transparent fins and their attachment will be judged for craftsmanship along with the model.
4. Flight: Each entry must make a safe, stable flight. If the entry does not make a safe, stable flight, it will be disqualified.
5. Points will be awarded according to the following schedule:
 - a. Craftsmanship: 500 points
 - i. Points will be awarded in the following categories:
 - ii. Neatness and care in construction: 150 points
 - iii. Craftsmanship of details: 100 points
 - iv. Degree and quality of finish: 100 points
 - v. General appearance: 150 points

- b. Degree of Difficulty: 300 points
 - i. Asymmetries inherent in the model: 40 points
 - ii. Intricacy of paint pattern: 80 points
 - iii. Degree of detailing required: 80 points. This category includes such items as the number of external or visible internal components and details that had to be added or reconstructed individually by the contestant.
 - iv. Difficulty of stabilizing model: 50 points
 - v. Difficulty of adapting the model for flight: 50 points
 - vi. The Judges will consider that entries exhibiting an equal of craftsmanship might have required unequal amounts of time and effort because of the uniqueness of the kit chosen. (To facilitate judging, the contestant should point out difficult assemblies or construction problems in a note to the Judges.)

- c. Flight Characteristics: 300 points
 - i. Mission: 200 points. Mission points are awarded for appropriate and scale-like operation of the model during flight. Examples of such operations are staging, simulated cloud seeding, operation of electronic payload, and smoke ejection. Any such operation must comply fully with the safety standards set forth in the NAR Sporting Code. If it does not, the entry shall be disqualified. The RSO is the only official who may judge the safety qualities of the operation.
 - ii. General Flight: 100 points. General Flight points are awarded for proper operation of the model during flight, including launch, lack of misfires, stability, recovery, and lack of damage on landing. No consideration should be given to staging or scale-like flight characteristics, as these are covered under Mission points; however, if the general flight performance of the model is adversely affected by the failure of one or more of these aspects, points may be deducted from General Flight. Damage will be assessed from the judged pre-flight condition of the model to the condition presented to the judge post-flight. The only exception to this is damage caused by a catastrophic motor failure, in which case such damage will not be counted against the flight points

- 6. Scoring: The scores received for craftsmanship (possible 500 points), degree of difficulty (possible 300 points), and flight characteristics (possible 300 points) will be added together. The maximum possible score is 1100. The contestant receiving the highest score is the winner.

A-Impulse Parachute Spot Landing

7. The winner will be the contestant whose rocket lands closest to a target point on the ground set by the contest officials. This will be measured as the distance between the tip of the nose cone (or motor nozzle if the model has no nose cone) and the target point.
8. The entire rocket must return to the ground safely with all parts connected together using a parachute as its sole recovery system. The parachute does not need to fully inflate in order for a flight to be qualified, but it must come out of the rocket body and cannot be deliberately packed in such a way that it cannot inflate.
9. Up to two official flights may be flown by each contestant. The contestant's score will be the best single score from one of the two flights.
10. Different model rockets may be used for each qualification flight.
11. A flight must be declared as a contest flight before the flight begins by so indicating on the flight card.
12. The motor used must be an A or higher impulse motor.