2016 PACK 495 SPACE DERBY
RULES AND AWARDS CATEGORIES

Specifications for the Space Derby Rocket are included in the Official BSA Space Derby Rocket Kit that was issued to each Cub Scout. These rules follow, but take precedence over specifications included with the issued Space Derby Kit. Rockets should be built by the Cub Scout with some adult guidance depending on the skill level of the Scout.

Only the parts included in the BSA Space Derby Rocket Kit issued to each Cub Scout (or official BSA parts) are allowed. Using all parts included in the kit is not required. See rules below for Add-On details.

Take care to follow instructions included with BSA Space Derby Rocket kit closely. Mistakenly omitting any necessary part in the kit can create a poorly performing rocket.

Modification to Space Derby Rocket Kit parts is encouraged within these rules. Experiment to determine the design that will create a light and sleek rocket. Keep in mind that a lighter, more aerodynamic, rocket will typically go faster.

Rocket Specifications:

- **Weight – No Minimum or Maximum (as long as all necessary parts are used)**
- **Width – No Minimum / 6" Maximum**
- **Rocket Body Length – 6½" Minimum / 7" Maximum (not including propeller)**
- **Number of Installed Rubber-Bands: 3 – Keep one as a spare**

- **Do not glue white nose cone to rocket body; it must be removable for re-installing rubber bands**
- **Lubricate rubber-bands with glycerin soap or cornstarch**

- Any additional starting or propulsion device is prohibited. The rocket must be propelled only by the thrust created by the propeller unwinding on the twisted rubber bands.
- Add-On details such as wings, rudders, and pilot, etc. are permissible as long as these details do not cause the rocket to exceed the maximum length, width, and height specifications.
- Add-On details cannot add any unfair propulsion advantage to the rocket (as determined by Race Officials).
- Each rocket must pass inspection (to take place before the races begin); if necessary, the owner will be informed of the reason for failure, and will be given time within the official inspection time period to make adjustments.
- After final approval, rockets will not be re-inspected unless the rocket is repaired after being damaged in handling or in a race.

Results of Official Space Derby Inspection/Check-in are final. Judgments of qualifications by Race Officials per these rules are final.

2016 AWARDS CATEGORIES

Race Competition – Medals

- **1st Place, 2nd Place, 3rd Place Overall Cub Scout** – awarded to the top 3 Scouts determined by a double-elimination tournament

Construction Competition – Ribbons/Trophy

- **Cub Scout Choice Award** – awarded to the Cub Scout whose rocket receives the most votes for favorite rocket as voted by his peers
- **Best Craftsmanship** – awarded to Cub Scout whose rocket is judged to have the most complex, unique, and/or advanced design and construction
- **Best Paint Job** – awarded to the Cub Scout whose rocket is judged to have the most unique, shiny, glossy, dazzling, or complicated paint job
- **Best Cub Scout Spirit** – awarded to the Cub Scout whose rocket is judged to have the best use of a BSA/ Cub Scout theme
- **Best Original Theme** – awarded to the Cub Scout whose rocket is judged to have the most original theme (create your own brand, style, or theme with an original idea)
- **Best Add-Ons** – awarded to the Cub Scout whose rocket is judged to have the best add-on details (anything not included in the official BSA Space Derby Rocket Kit)

Jeremy Peery
Cubmaster.pack495.wa@gmail.com
Cubmaster
Cub Scout Derby Coordinator
Space Derby Official
Pack 495

Tips for making a competitive Space Derby Rocket:

A lighter rocket is easier to propel down the fishing line track than a heavier rocket. The less weight on the rocket carrier, the less friction on the fishing line and easier it is for the rocket to move initially.

Use wings and add-ons sparingly so as to avoid extra weight.

Design the rocket to be as aerodynamic as possible. Sand all edges as smooth as possible including both leading and trailing edges.

A smooth, painted finish on the rocket body makes the rocket slip through the air cleanly. Keep in mind that the paint adds weight.

Lubricate the rubber bands and the inside cavity (bore) of the rocket with cornstarch or cornstarch baby