

Aerospace 2012!

Bring down two eggs from 800ft! In 43-47 seconds!

Rocket design:

- **Read the 2012 TARC handbook** which includes other tips and all of the rules. (The State 4-H contest at Showcase Showdown is the same as TARC.) You can view it at: http://rocketcontest.org/pdf/handbook_2012.pdf
- **Launch Equipment** – You will need a bigger pad than the Estes Port-a-pad II. What type of launch pad you use will determine certain important parts of the design.
- **Design** – You need to design before ordering parts. (I highly recommend RockSim available from Apogee.) Free design information sites are available. <http://www.grc.nasa.gov/WWW/K-12/rocket/bgmr.html> and <http://www.apogeerockets.com/education/index.asp> Remember that the section with the eggs and altimeter needs to come down in 43 to 47 seconds from the ignition.
- **Body Tubes** – Be aware that the BT-70 (56 mm diameter) is not a common size, and you may have difficulty finding parts (maybe try BT-80). A BT-60 is not big enough.
- **Altimeter** – Altimeters are available from Apogee Components. Be aware that the altimeter ALT15K requires at least one hole at least three times the body diameter away from any change in diameter. The Altimeter One can be attached to the shock cord and is permitted in the 4-H contest.
- **Engines** – You will need to use 24 mm or 29 mm engines. Clustering is discouraged due to the lack of probability of success. No motors larger than an “F” size are permitted this year.
- **Take off speed** – Needs to be > 40 ft/sec when the rocket clears the launch guide in order to be stable. Use a simulation software to determine take off speeds for motors.
- **Epoxy** – Indispensable for fin fillets. Recommend Fix-It Epoxy from Apogee Components.

Suppliers:

- **Apogee Components** - (<http://www.apogeerockets.com/>)
Great for building supplies and information Get and watch “Rocket Building Workshop 101.” (It’s worth it by a long shot.) You can view it for free or get order information at http://www.apogeerockets.com/getting_started.asp . They carry BT-70 and BT-80 parts (They have great service!). Located in Colorado so shipping is very fast.
- **Aerospace Specialty Products** - (<http://www.asp-rocketry.com/>)
They have a few things cheaper than Apogee and a few things Apogee doesn’t have. Located in Florida so shipping is very slow.
- **Hobbyinc** - (<http://hobbylinc.com/>)
Consider Aerotech motors. Hobbylinc usually has the cheapest motor prices but shipping is slow.

If you have any question, please ask me via e-mail. My e-mail address is: rocket-dude.com@gmail.com

For more information visit:

<https://sites.google.com/site/scwypl/home>