

MASA Meeting – June 4, 2009

Contest Rockets & the June 27-28 Regional

This is meant to be a quick summary and reference for the basics about the contest events. For all the details, please consult the “United States Model Rocket Sporting Code” (aka “Pink Book”) at <http://www.nar.org/pinkbook/>

The Basics:

- Must follow model rocket safety code.
- Rockets and motors must fall within the “model rocket” definition.
- Must use commercial motors that are “contest approved”.
- Contestants are expected to help time the duration flights of other contestants; you may not be an official timer for your own flights. (Rule 15 has timing details.) Each duration flight has two timers; the flight score is the average of their two times.
- Each of your contest rockets must have your name and/or NAR number on it.
- All rockets must be presented for a safety check prior to flight; this includes a visual verification of the motor used.
- In most events, you have two official flights. Normally, you have to return the entry to the officials after at least one of your flights.
- You cannot “spit” or eject a motor in flight unless the ejected casing has an attached recovery device. (Rule 9.2)
- Flights must be stable and safe, or else will be DQ’ed by the RSO.
- In duration events, you may not eject the motor, or split the rocket into two or more unattached parts (exception for boost gliders).

Open Spot Landing (Rule 60)

- Goal – land the entry so that the tip of its nose cone is closest to a predetermined spot on the ground. Any type of recovery device is allowed.
- May not be remotely controlled or guided, must deploy recovery device before touching the ground, may not separate into two or more unattached pieces. May use any size model rocket motor. Return is not required.
- One official flight. If you compete in this event, it must be your first flight of the contest.

Random Duration (Rule 39)

- Goal – achieve as close as possible to a specified duration time. May use any size model rocket motor.
- The CD will randomly select a target duration time prior to the contest. It will be a multiple of 5 seconds between 30 and 120 seconds.
- One official flight. If you compete in this event, it must be BEFORE flying any other duration events.
- Model return is not required.

A Streamer Duration (Rule 31)

- Goal – achieve the longest flight duration time(s).
- “A” motor class. Single-staged rockets with single streamer recovery.
- Streamer must have L:W ratio of 5:1 or greater with minimum area of 100 cm². Streamer connected to model with only a single line.
- Two flights (one returned). Score is sum of durations from the qualified flights.

D Dual Egg Loft Duration (Rule 35)

- Goal – achieve the longest flight duration time.
- “D” motor class. Single stage. Must carry two raw large hen’s eggs with mass between 57 and 63 grams each and measuring no more than 45 mm in diameter. Eggs are provided to you before your flight.
- One flight. Model must be returned. Eggs must be removed in the presence of a contest official. DQ’ed if eggs are broken or cracked.
- Score is your duration time from the flight.

B Boost Glide (Rule 36)

- Goal – achieve the longest flight duration time(s).
- “B” motor class. Staging permitted. One portion of entry must return to the ground in stable, gliding flight. Entry may separate into multiple pieces; only the glider is timed. Gliding surfaces may not be made of flexible materials (plastic, etc).
- Two flights (one returned). Score is sum of durations from the qualified flights.

½A Parachute Duration Multi-Round (Rule 15.12, 30)

- Goal – achieve the maximum flight duration time(s).
- ½A motor class. Single staged rockets with parachute recovery.
- Allowed three official flights in the initial round.
- May enter no more than two models in the event for making all official flights.
- Has maximum time per flight. (120 seconds) If your duration exceeds the maximum, you are awarded the maximum.
- 1st round score is sum of durations on your three flights. If there is a tie for first place, additional flights will be held until a winner is determined.

If you have an “Alpha”, you could enter four out of the six events!

Free downloadable competition rocket plans!

<http://www.nar.org/competition/plans/competitionplans.html>

Competition rocket kit sources:

<http://www.cybertravelog.com/qcr/>

<http://www.asp-rocketry.com/>

<http://www.balsamachining.com/>

ASTRE PD/SD MODEL

designed by Jeff Vincent
redrawn by Wolfram von Kiparski

MINI MODEL PARTS LIST

- 7.5 inch Estes BT-5 tube, or equivalent
- Pratt Hobbies PNC-5 nose cone, or small balsa nose cone
- small eye screw (for balsa nose cone)
- two feet of 27 pound squid line
- 1/64" plywood, 1/32" basswood, or 1/16" hard balsa fin material
- launch lug, if tower launcher is not available
- 4x40" streamer and 16 - 18" dry cleaner bag parachute

Engine protrudes 1/4 inch from tube. Fly with 1/2A3-4T or A3-4T motors.

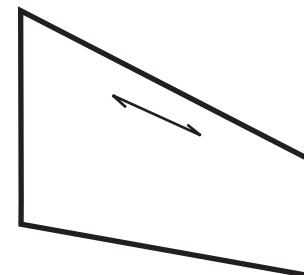
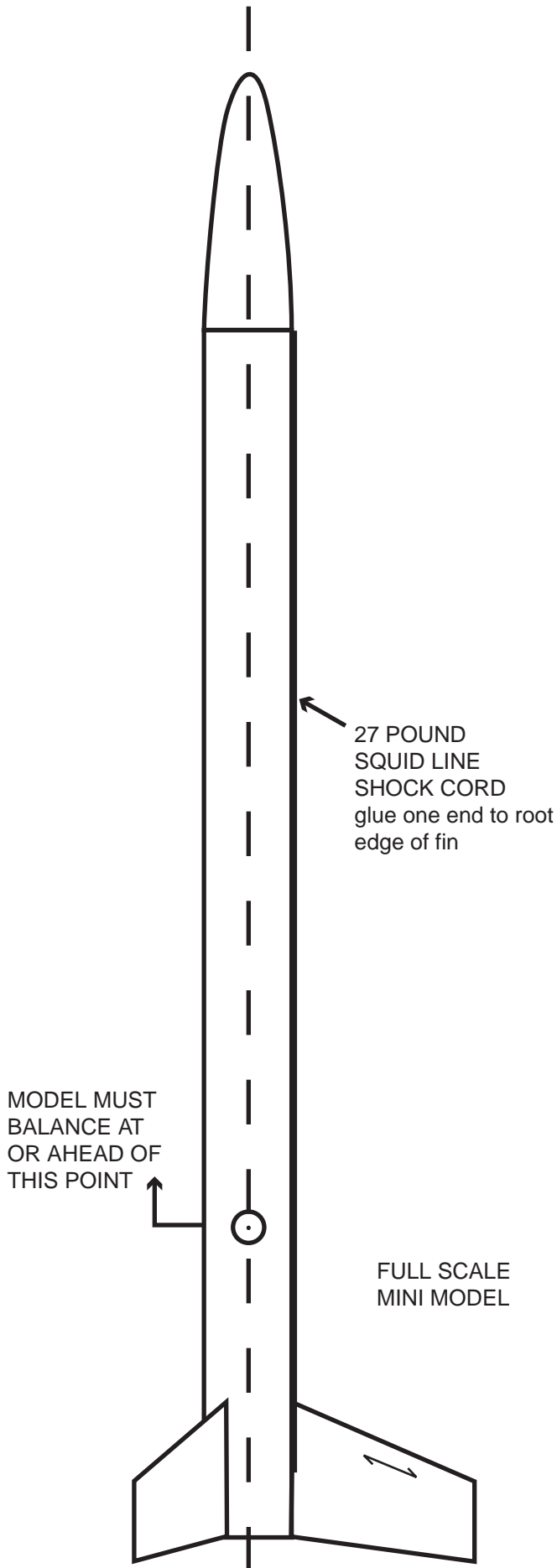
NOTE: MODEL MUST BALANCE 2.0 INCHES OR MORE AHEAD OF BOTTOM OF BODY TUBE!!

STANDARD MODEL PARTS LIST

- 10 inch Estes BT-20 tube, or equivalent
- Pratt Hobbies PNC-20 nose cone, or small balsa nose cone
- small eye screw (for balsa nose cone)
- three feet of 27 pound squid line
- 1/32" plywood, 1/16" basswood, or 1/16" hard balsa fin material
- launch lug, if tower launcher is not available
- 6x60" streamer and 16 - 24" dry cleaner bag parachute

Engine protrudes 3/8 inch from tube. Fly with B4-4, B6-4, or B6-6 motors.

NOTE: MODEL MUST BALANCE 2.75 INCHES OR MORE AHEAD OF BOTTOM OF TUBE!!



FULL SCALE
STANDARD FIN PATTERN

