Getting Started In Competition

A question arose in the club Zoom meeting the other day about NAR competition and how to get started in competition. This note will provide a quick introduction to NAR competition and a guide to NAR resources.

The basic format of NAR competition is the combination of the National Rocket Competition (NRC) and the annual National Association of Rocketry Annual Meet (NARAM).

The NRC is a group of 6 model rocket competition events that are flown over the course of a year. NAR members fly individually at club or individual launches and post their scores to a national scoreboard after each event. Each rocketeer plans what events to fly at any given launch and may elect to fly all or only some of the events over the course of a year.

NARAM is the NAR's annual contest held each summer. The 6 NRC events form the core of the contest, but 3 other events are added for a total of 9 events. NARAM also usually hosts the R&D contest.

All competition is governed by the rules outlined in the NAR U.S. Model Rocket Sporting Code, (USMRSC). This is also known as the "Pink Book" referencing an era when the cover was pink.

A copy of the USMRC may be found at:

 https://s3.amazonaws.com/ClubExpressClubFiles/114127/documents/USMRSC\_7.22.2025\_\_1829942820.pdf?AWSAccessKeyId=AKIA6MYUE6DNNJ6ROIH3&Expires=1755780708&response-content-disposition=inline%3B%20filename%3DUSMRSC\_7.22.2025\_.pdf&Signature=8XSpgkJQYCY3myFvns6nNztqXW0%3D

The event list for this year's NRC may be found at:

https://nar.org/content.aspx?page\_id=22&club\_id=114127&module\_id=668563

The events for this year are:

FAI 1/2A Parachute Duration Multiround
FAI 1/2A Streamer Duration Multiround
FAI 1/2A Helicopter Duration Multiround
FAI A Rocket Glider Duration Multiround
C Egg Loft Altitude
A Altitude

The FAI class events have specific rocket design specifications. These may be found in the USMRSC 9.12. In particular, the airframe must be 500mm long and 40mm in diameter. There are some commecial kits available for this, Apogee being the most notable vendor. If you wish to build your own CMASS owns a 40mm mandrel that can be used to make paper or fiberglass tubes.

The NAR website is the gateway to a wealth of information about competition. Some is to be found in the "Competition" tab under "National Competition".

Much more is found under the "Members", "NAR Archives" tab and then under the two subcategories "Competition" and "Plans". In particular, "Plans" has multiple model rocket plans for almost all categories of competition rockets.

There is a lot of information available here to play with. With so much information available where does one begin?

- Pick an event or two that look fun and interesting. A good starting point in this year's NRC would be A Altitude or C Egg Loft Altitude. Both of these will require an altimeter. The PerfectFlight Firefly is a reasonably priced altimeter that fits in a BT-20 tube and can be used for both events.

- Build a model.

- If you are flying the Egg Loft event, buy a couple of eggs. Look for the weight specification in the USMRSC. Test fit to your capsule.

- Get ready to fly. To fly, fill out both a club Flight Card and an NAR/NRC flight card. NRC flight cards are available usually in a box set out on a chair near the RSO. Please indicate on the club flight card that the flight is an NRC event. If it is a duration event, indicate on the flight card that it is a duration flight and that timers are needed. Watches for timing are available in the same box as the flight cards.

The flyer is responsible for lining up timers for a flight, but club members are happy to help with timing. When the flight is called, the Launch Officer will confirm that timers are ready before launch. Watches with the recorded time may be turned in to the RSO while the flyer recovers the rocket. Upon return, record the times on the NAR Flight Card and return the watches to the range box.

- Altitude events may be flown as either 1 or 2 flights. Duration events are generally the sum of the times from 2 flights. Multi-round duration events are the sum of times of 3 flights. After the first flight, take the flight card back and hand it in again when the second or third flight is made. When all flights have been made the completed card should be returned to the range box where it can be picked up and the results posted to the NAR National Scoreboard.

For ongoing updates to the competition scene, follow the CMASS Forum "Launch" thread or the NAR Forum "Competition".

A final complication. There has been a shift in recent years within the NAR competition community towards FAI-type events. There are a variety of reasons for this, but the change has created a split in the NAR between those who wish to fly FAI or international events and those who wish to fly more traditional and varied NRC events.

Consequently, a rival program of competition flying has been set up known as USRC. This group proposes to fly an NRC type schedule of 6 events and to hold a national contest next summer flying the 6 events plus 3 other events, thus mimicking the NRC/NARAM format.

The USRC events for this year are:

A Rocket Glider
C Egg Loft Altitude
A Altitude
1/4A Parachute Duration
B Super Roc Altitude
1/2A Streamer Duration

With the following events added for the national competition:

D Helicopter Duration
Precision Fragile Payload with 150m altitude and 45 second duration
Sport Scale

Three of the events, A RG, C Egg Loft Altitude and A Altitude overlap with NRC events. If one flies these events scores can be posted to both scoreboards. The PD and SD events permit the use of any type of airframe rather than requiring the FAI standard airframe.

It is unclear how the split within the NAR over competition will resolve itself. The existing situation leads potentially to a considerable duplication of effort as well as dilution of focus within the competition community.

Fundamentally, competition is but one aspect of the NAR. In its early years, competition was much the glue that drove the organization forward. In more recent years, however, HP seems to have become far more attractive and competition less so.