



Welcome to National Rocketry Competition **(NRC)**

The New Look of Competition

Expanding Competition Subcommittee

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The National Rocketry Competition is...



- The National Rocketry Competition (NRC) is a nationwide competition in which individuals and teams **qualify to compete at NARAM** for Event Specialist Awards (ESA) and to become National and Reserve Champions in four competition divisions –

A Division	Individuals and Teams, ages 7 – 14
B Division	Individuals and Teams, ages 15 – 22
C Division	Individuals ages 23 years old and older
D Division	Teams ages 23 years old and older

Teams fly in the division of the oldest team member.

The National Rocketry Competition is also...



Each contest year the NRC is made up of six (6) events.

- Four (4) events selected by the Contest Board from the NRC Events List.
- Two (2) events selected by the NARAM Contest Director from the NRC Events List.

Those six events are what all competitors fly during the course of the NRC year which begins the day after NARAM concludes.

DECLINE



Despite a **30% growth** in membership since 2010...

The number of competitors in A and B division has seen flat or declining participation since 2007.

Baby Boomers, those born between 1946 and 1964, are now ‘aging out’. Meaning that the normally robust number of C Division competitors will now begin to see a decline in numbers.

Unless declining participation is reversed, offset by adding A and B Division members, competition faces a significant attendance and manpower issue with regards to justifying future NARAM competition.

Board of Trustees Responds



In 2015 at NARAM-57, the NAR Board of Trustees established a special committee to recommend ways to attract more members to competition and I volunteered to chair it.

The resulting five-man Expanding Competition Subcommittee (ECS) began its work in August that same year.



ECS Mission



- Grow the number of competitors to 600 by the end of the 2017-2018 contest year.
- Define mechanisms that will **add NAR members of all ages** to the ranks of competitors with a focus on **increasing A & B division member participation** (those members under the age of 23 years).
- Identify and make changes to the Sporting Code to support the above.

Goals to Achieve the Mission



- Cost containment
- Simple models
- Ease of involvement
- Potential for rapid improvement
- Bragging rights!
- Fair competition prior to NARAM
- A more exciting NARAM
- More awards to more people

Cost Containment



Simple models-

Many of the NRC events use models which are three fins and a nose cone.

Low impulse/lower cost motors-

Better than half the NRC events fly on $\frac{1}{4}$ A to A impulse motors. No motor more powerful than a C is used in any of the NRC events.

Simple Models



The NRC Events List

- 1/4A-A Parachute Duration
- 1/4A-A Streamer Duration
- 1/4A-A Helicopter Duration
- 1/4A-A Boost Glider Duration
- B-C Egg Lofting Duration
- 1/2A-B Altitude - Altimeter
- A-B Payload Altitude - Altimeter
- B-C Egg Lofting Altitude - Altimeter

Ease of Involvement



- Fly NRC events with as few as two people- An individual or team member who is 18 years of age or older and a second person 7 years of age or older.
- Individuals or team members 18 years of age or older can sanction an NRC launch. There is no limit on the number of NRC launches an 18 year or older member may sanction- fly NRC events as often as you like.

Section Competition and the NRC



MANY more contest opportunities and possibilities!

- To sanction a contest means that **any NRC event may be flown at that contest**, regardless of the other events scheduled.
- Sections may hold sanctioned and unsanctioned contests as often as they wish.
- Unsanctioned section contests may include as few or as many events as they wish.
- Section contests, sanctioned or not, **may compete using Sporting Code events, archived events, fun events and/or gentleman agreements.**
- Section contests may be tailored to suit the interests and experience levels of the competitors.

Potential for Improvement



A person is likely to improve more quickly if-

- They can fly as often as they have time
- They build and fly the same design
- They can see how they perform relative to their peers



Bragging Rights!



The NRC will establish a real-time, on-line, results **Scoreboard** where members can compare their performance to that of their peers in each NRC event.

The **Scoreboard** will show your place (also known as your rank) in each NRC event you fly.

Fair Competition Prior to NARAM



Competitors across the country will fly NRC altitude and duration events on as level a playing field as possible.

- Altitude events will both require launch site elevation and temperature be recorded as Contest Manager will require them for scoring all future altitude flights.
- NRC duration events will have no return rule.
- **The Triple Max'!**- Based on the sum of two (2) flights, a competitor that can achieve an official score that is a total duration three times (3x) the multi-round maximum for an event, will receive a rank of one (1) in that event.

Qualifying for ESA Awards



Between NARAMs, there are two schedules running concurrently. One is the **Contest year**, which begins the day after NARAM concludes and ends on the last day of NARAM of the following year. The second is the **NRC year** which begins the day after NARAM concludes and ends on June 30 of the following year.

At the close of the **NRC year** (June 30th) competitor scores on the **Scoreboard** become final. Those final scores determine a **competitor's place or rank** in each of the NRC events they flew.

- **Event Specialist Award (ESA)** – Competitors who achieve qualified flights in the NRC events they select **and score in the top 10 or 10%** (whichever is greater) of those selected events, qualify to compete at NARAM for their selected ESA's.

Qualifying for National Champion Awards



Because the National Champion qualifying process is based on a competitors **combined Scoreboard rank in all six NRC events**, you want to have high finishes which equate to LOW ranking numbers. A rank of one (1) being the best!

- **National Champion Award** – Those who achieve a qualified flight in **all** of the NRC events **and finish in the top 10 or 10%, (whichever is greater) of the NRC events**, based on their **combined Scoreboard rank**, may compete at NARAM for a National Champion award.

Ranking Example:

Bob K. – 5th, 3rd, 3rd, 1st, 17th, 1st = Rank of 30

Rick G. – 2nd, 3rd, 2nd, 1st, 4th, 3th = Rank of 15

A More Exciting NARAM



NARAM competition is open to all registered flyers in attendance.

NARAM consists of the NRC events and whatever other events the Contest Director selects from the Sporting Code.

Competitors that want to be a National Champion must qualify through the NRC and declare their intentions when they register for NARAM.

All competitors begin NARAM with zero points.

Points at NARAM will be awarded in each event according to this schedule:

1 st – 25 pts	2 nd – 20 pts	3 rd – 17 pts	4 th – 14 pts
5 th – 12 pts	6 th – 10 pts	7 th – 8 pts	8 th – 6 pts
9 th – 2 pts	10 th – 2 pt	Flight Points – 1 pt	

A More Rewarding NARAM



Those who meet the NRC qualifying requirements may compete at NARAM for:

National Awards- Champion and Reserve, and...

Event Specialist Awards- Which recognize the best NRC event performance in each competition division

And all NARAM Attendees may compete for:

Meet Awards- Champion, Reserve and Events

Countdown to the NRC



The new Sporting Code becomes effective on July 1, 2017.

The first NRC year will begin the day after NARAM-59 concludes and will end on June 30 of 2018.

The first champion awards presented under the NRC format will be at NARAM-60.

The
National Rocketry
Competition

Fly It!

What Can I Win At NARAM?



NARAM Awards Matrix

Participants	Event Awards	Meet Champions	Event Specialist Award	National Champions
NARAM competitors that do not qualify for ESA or National Champion	YES	YES	NO	NO
NRC competitors that do not qualify for ESA or National Champion	YES	YES	NO	NO
NRC competitors that qualify for ESA	YES	YES	YES	NO
NRC competitors that qualify but do not declare for National Champion	YES	YES	YES*	NO
NRC Participants that qualify and do declare for National Champion	YES	NO	YES*	YES

* Must qualify to be
ESA eligible

The Comment Forum



- A draft copy of the revised US Model Rocket Sporting Code was available for member examination and comment from September 1, 2016 to November 30, 2016.
- The Forum collected 106 member comments.
- 60 comments targeted Section 13- the Spacemodeling Qualifier Series (SQS) which is the heart of the coming change to competition.
- 35 comments generated changes to the Sporting Code.
- Many comments expressed a *reaction* to the proposed Sporting Code changes without specifying what *action* we should take- this is one reason there may not have been more changes made to the code.

Terms and Definitions



- **Scoreboard** – a web based repository of the flight scores generated at NRC launches. The Scoreboard allows competitors to track their performance relative to others in their competition division. The Scoreboard is used at the end of the NRC year to determine the national rankings of NRC participants and their eligibility to compete for certain awards at NARAM.
- **NRC Year** – Begins the day after NARAM concludes and ends on June 30 of the following year.
- **Contest Year** – Begins the day after NARAM concludes and ends on the last day of NARAM of the following year.
- **NRC Launch** – a launch sanctioned by a section or NAR member 18 yrs of age or older. An NRC launch requires as few as two (2) people to be held- an NAR member 18 yrs of age or older and a person 7 years of age or older.
- **Contest Director (CD)** – An NAR member 18 yrs of age or older who can sanction an NRC launch and is responsible for submitting their NRC results to both the online Scoreboard and to the appropriate Contest Board Regional chairman for verification.
- **Event Specialist Award** – a new award category presented to those individuals and teams that just want to focus on a particular NRC event(s) during the NRC year.

The Competition - NRC Results



- Results are posted by the NRC Contest Director to a cumulative, nationally accessible results scoreboard on NAR.org.
 - Results are reported to the appropriate Regional Contest Board Chairman by the host individual or section for verification and will include data for pending performance records.
 - The scoreboard will reflect the best score attained by a contestant to date.
 - A contestant that competes in the same NRC event multiple times during a NRC year shall only see his/her best score displayed.
 - **The Triple Max'!** Based on the sum of two (2) flights, a competitor that can achieve an official score that is a total duration three times (3x) the multi-round maximum for an event, will receive a rank of one (1) in that event.
 - Results will be posted to the scoreboard within 7 days of the completion of the NRC launch.

The Competition - NRC cont'd



- If a NARAM CD is not selected by July 1, the Contest Board shall select all six (6) events from the core events list to set the NRC.
- The events that qualify a competitor to compete for the title of National Champion or Event Specialist Champion are those selected for the NRC.
- NRC flights shall be conducted at sanctioned launches sponsored by a section or individual member 18 member of age or older.
- Individuals and sections may obtain an NRC sanction for as many launches as practical, i.e. sport launches, contest launches and record trials, to provide multiple opportunities for NRC flights to be attempted.
- Sanctions will be obtained from the Contest Board and listed on the NAR contest calendar.

NRC Awards



- At the close of the NRC year, and prior to the NARAM, the top ten competitors in each competition division will be recognized on the NAR.org website in the E-Rocketeer, and in the official journal of the NAR for their performance.

NARAM Awards - Meet



- All competitors who did not take part in the NRC may compete at NARAM for Meet awards.
- All competitors who took part in the NRC but failed to qualify for an ESA or National Champion award may compete at NARAM for Meet awards.
- Individual event awards will be presented for 1st thru 3rd place in each competition division.
- Meet and Reserve Champion awards shall be given for 1st and 2nd place in each competition division.

NARAM Awards - ESA



- Those who have qualified for an ESA must compete at NARAM to receive the award in the NRC event in which you qualified.
- Each NRC event will award an ESA in each competition division.
- The competitor achieving the best score at NARAM of NRC qualified competitors shall receive the ESA for that event.
- There is no limit to the number of ESA's an individual or team competitor may qualify for, compete in, or be awarded at NARAM.
- Event Specialist Award competitors may win both ESA's and NARAM meet awards.

NARAM Awards – National Champion



- National Champion awards will be given for 1st and 2nd place, i.e. National and Reserve Champion.
- To be recognized as a National Champion in a competition division, competitors
 - must qualify thru the NRC
 - declare their intention, during NARAM registration to compete for a National Champion Award
 - must compete at NARAM
- The NRC qualified competitor accumulating the most points will be awarded the National Champion award in their competition division.
- Competitors who compete for National Champion awards may not win NARAM Meet Champion awards.
- National Champions may win ESA awards only if they qualified thru the NRC.

What This Presentation Covers



1. The Comment Forum on NAR.org
2. Our Mission
3. What is the National Rocketry Competition
4. Terms and Definitions
5. For individuals and sections, what is different between the current competition format and the NRC competition format?
6. The National Meet (NARAM)
7. NARAM Awards
 - Meet
 - Event Specialist Award
 - National Champion
8. What Can I Win At NARAM?
9. NRC Awards
10. Questions