

NARAM 59 and Rocketry Festival 2017

**Including: July 29 - August 4th 2017
Muskegon, MI**

- 2017 FAI tryouts & CanAm Cup**
- Carnival Launch** *(Launch and get a prize)*
- Horz. Super Roc** *(12" min dia. H & I Motors)*
- Odd Roc** *(All Motor Sizes)*
- High Power Set Altitude** *(420m)*
- Swamp Gas Night Launch**
- Imagination Celebration**
- R.I.P. Pink Book** *(Bring Pink Rockets to Launch)*
- NARAM 59 Themed Launches**
(Sputnik - 1957 and Apollo 7 - 1967)



**Celebrating
59 Years of
Contest Rocketry!**



Greetings from the CD:

Hello and welcome to NARAM-54! We are so glad you are here! All of the planning, discussions, arguments, meetings, emails, and phone calls, have culminated in the event you are now a part of. Your host clubs are Southwest Michigan Association of Spacemodeling Hobbyists (SMASH) and Muskegon Michigan Area Rocketry (MMAR). We are privileged to be able to offer one of the best (if not THE best!) flying fields for NARAM-54, the Muskegon County Wastewater Facility. Of its 11,000+ acres of land, we have a 40 acre field to fly in. Our heartfelt thanks go out to the Wastewater Management for their support of this event. Another special thanks to Eggleston Township Fire Department, for their support in our super-dry-field-conditions!

We would like to thank Patches-4-Less for the awesome job they did on our patches, Shirts-N-Stuff for the super-fast service times on the shirts and staff hats, and for their enthusiasm. We would like to thank Estes for supplying the Commemorative NARAM-54 'Energy' for each participant, & catalogs, Flis Kits for the Commemorative Stickers for each participant, Balsa Machining Service for the 'Imp' kits for each participant, Commonwealth Rocketry's 'Kits for Kids' program, Tom and Maria for the 'Fly It Take It' program, and all other sponsors and vendors for their generous support.

I would also like to thank my staff, without whom none of this would have ever happened. You are the BEST!

Finally, to you, the participants, without whom there would not be a reason to do this.

We hope you enjoy your time with us. We are committed to giving you the best possible experience.

Sincerely,

Pamela Gilmore

Contest Director, NARAM 54
President, SMASH NAR 500

NARAM 59 & Festival Events:

- **Open Spot Landing**
C altitude (tracked)
B Super-roc Altitude (altimeter)
C Payload Altitude (altimeter)
B Eggloft Altitude (tracked)
G Helicopter Duration (C and T divisions)
D Helicopter Duration (A and B divisions)
C Flex-wing Duration
Scale
Concept Scale

Clarifications, Advisories and FAQ

Name Badges:

All fliers must wear their registration badges indicating registration status and High-Power Certification Level at all events. This is your pass to all events.

Pad Assignments:

Pad assignments will be issued based on the order in which fliers clear safety check-in with ready-to-fly models and the order of availability of the pads of the appropriate type. Assignments will be made only to unoccupied pads. Fliers with personal launching equipment at a busy pad have the option of moving their equipment to an unoccupied pad, or waiting until the pad with their equipment is free. No stacking or pre-allocation of flight cards for a particular pad will be allowed.

Range Duty:

All fliers are subject to being required to perform some form of Range Duty on a "Fair Share" basis, based on any preferences they indicate at registration and on the needs of the events. The Event Director may suspend flying privileges for any participants that refuse, or are late or do not show up for their Range Duty assignments.

Blast Deflectors:

All flier-provided launching devices must include an adequate blast deflector that prevents motor exhaust from directly impacting the ground.

Flying Rockets:

There will be two ranges set up for rocket activities: the NARAM Contest Range and the Sport Flying Range. These will be the only areas from which rockets may be flown. NARAM Competition flights will be flown only from the competition range. Practice flights for competition models may be made from the Sport Range.

Range Closing:

Check-in for each event will close 10 minutes prior to the end time for that event. The Pad Assignment queue will close 5 minutes prior to the end time for that event. After the close of an event, all flights will be processed out of the assignment queue through a single launch attempt. Misfires on the pad after the event close will not be granted additional launch attempts.

Returns:

For events requiring a returned model, that return must be made within 120 minutes from the end (close) of that event. Late returns may be made at the field or at the Hotel=. Late returns may also be called into the Contest Director.

10.4 Return of Inaccessible Models:

Rule 10.4 applies to all events except egg lofting. The Contest Director will not enter any property with posted "**No Trespassing**" signs. Rule 10.4 may be called on models that fall in a posted "**No Trespassing**" area, or into the Settlement Pond to the south of the flying field.

The Launch Field:

the **NAR** will host a Sport Launch the weekend prior to **NARAM 59** Contest, and all week long during the Rocketry Festival. The pads will be set up to the west of the Contest Range. An FAA Waiver up to 15,000 feet AGL will be in place all week long. A number of motor vendors will be on site to take care of your motor needs. Please feel free to contact any of them early to reserve a motor in advance.

The Sport Range will be managed by **Muskegon Michigan Area Rocketry, (MMAR)**. They will support an number of High Powered pads and Hybrid capabilities. Flights up to Complex M and simple N motors can be accommodated.

The Sport Range will be arranged in a right/left split to allow rockets to be safely loaded on one side while being launched on the other.

Pads will available with all standard rod and rail sizes up to 1.5" rail.

A 17 foot launch tower will be available at the 1000 foot cell for larger launches. All launches int M and N range will be flown from this cell. The tower is equipped with a 1.5" rail.

If you need non-standard equipment for your project, please contact the Sport Range Manger, Rob Dickinson, at XXXXX or 616-350-2010. We will do all we can to make sure you can launch you project!

Level Certifications:

Staff on hand will be able to certify L1 and L2 flights for both **NAR** and **Tripoli**. L3CC and TAP members are planning on being at the launch, but it is the L3 candidates' responsibility to contract your L3CC or TAP member to arrange to have your L3 certification flight properly documented and witnessed.

FRS Radios:

Public address system is based on the FRS band Walkie-Talkies. If you have any FRS radios, bring them along so you can keep track of the launch announcement from anywhere in the area. FRS Channels 6,7 and 8 are Event Staff channels, do not broadcast on these channels.

Channel 6:	Contest Director
Channel 7:	Sport Range Events Announcements
Channel 8:	Contest Range Events Announcements

High Power Information:

If questioned, fliers must provide evidence that any High-Powered rocket that they present to fly will not exceed the waiver or the cloud ceiling limits in effect.

No one under-age or not certified for the applicable motor impulse will be allowed past the safety check with a rocket containing a High-Powered motor unless accompanied by an appropriately certified sponsor.

All igniters for High-Power rockets will be installed only at the pad before flight. They must be brought to the safety check in desk separately from, but along with the rocket.

Sensitive igniters (such as "electric match" and "flash bulb") must be shorted until hooked up tot he range launch control systems at the pad.

Altimeters with ejection charges are not to be powered up until the rocket is at the pad area.

Continuity checks on igniters that are installed in High-Power motors may only be made through the launch control system, after the rocket is at the pad, pointed upward and ready to fly.

All motors must be currently certified to be flown on the ***Rocketry Festival*** and ***NARAM 59*** field.

Doggies are
welcome,
but must be on a
leash at all times.



ALL FESTIVAL AND NARAM 59 CONTESTANTS ARE EXPECT TO ATTEND THE CONTESTANT'S BRIEFING ON SUNDAY EVENING.

ALL FLIERS ARE REACQUIRED TO WEAR THEIR NAME BADGES TO GAIN ACCESS TO THE FIELD. ANYONE NEEDING A BADGE CAN HAVE ONE MADE AT THE CONTESTANT'S TENT REGISTRATION TABLE.

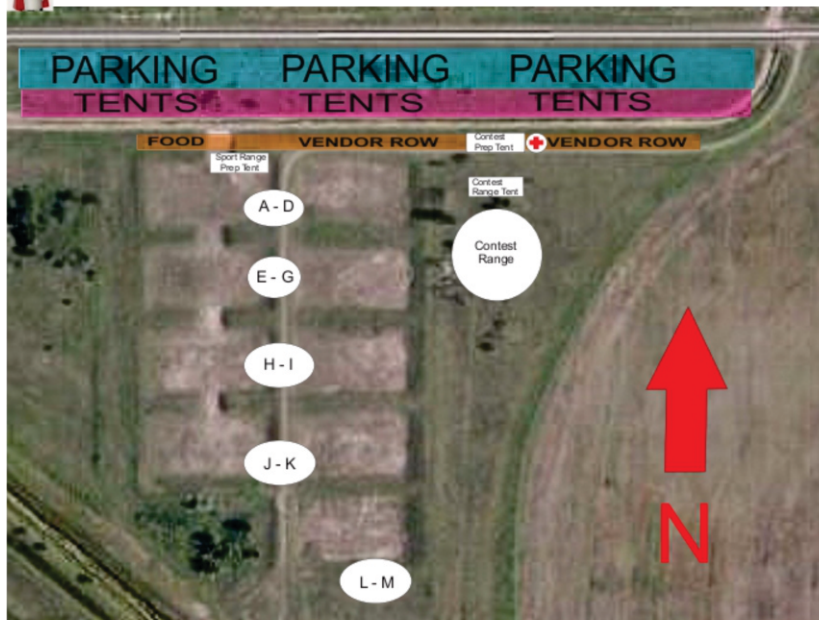
SPECTATORS ARE WELCOME AND MAY ATTEND FOR FREE. PLEASE STAY BEHIND THE POSTED AREAS. THESE AREAS WILL CHANGE BASED ON THE CONDITIONS AND EVENTS

PLEASE PARKING THE DESIGNATED PARKING AREA TOT HE NORTH OF THE FIELD.

M.
M.
A.
R.



SMASH will manage the
Contest Range
MMAR will manage the
Sport Range



New This Year.....

We are recycling! Containers will be available all over the field. Please use them as indicated.

Plastic, glass, and aluminum bottles & cans have a specific designated can. Michigan has a 10 cent deposit on all carbonated beverage containers. If you want to donate your 'dime', please put your cans & bottles in the labeled can.

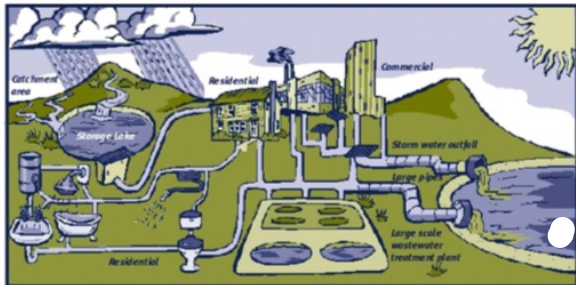
The second can is reserved for clean, recyclable materials—plastic, glass, metal, cardboard, and paper.

The third can is for regular garbage.

We are trying to be 'green', and reduce the amount of trash that goes to our local landfills. Thank you for supporting our efforts to be ecologically responsible.



Muskegon County Wastewater Treatment Facility- MMAR launch field.



Directions to launch site at Muskegon Wastewater Facility:

From Muskegon: intersection of US 31 and M-46 (Apple Avenue) go east 6.9 miles to Maple Island Road and turn left (north) to go 2.2 miles to entrance of the Wastewater Facility road. Turn right (east) and go 2 miles to the launch site entrance on the right. The MMAR club sign will be there.

GPS site coordinates:

N43 degrees 15' 49.98", W 86 degrees 1' 44.64"
(see travel page for driving directions)

Launch site information:

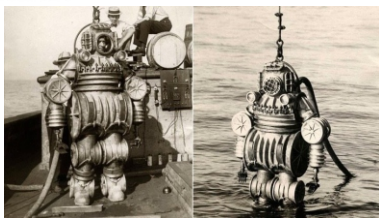
Immediate field – 40 acres, mowed grass

11,000 acres of open farm land with space in all directions

Waiver of 15,000 AGL

Sport range supports up to complex M and simple N launches

There is a large hazard south of the launch area - Waste water holding pond
(The Big Icky!)



Range information:

Parking will be restricted to the tent city and areas behind the safety lines, north of the ditch

There is plenty of parking capacity for contestants, sport flyers, and spectators

Porta-jons, hand washing stations, a food vendor, and water will all be available during all field activities.

ATVs and vehicles may be used to move around the launch site so long as they are kept on roads and trails.

No vehicles OF ANY TYPE may be used to drive in the crop areas, and crop circles should only be entered ON FOOT.

Pets are welcome! However, all pets must be under owner control at all times and on a leash or in a secured area.

The large sprinkling systems used on the crops are NOT spraying potable water, it is partially treated sewage. Do not walk under the spray of a running sprinkler, or allow children to play in them. Should your rocket be under the spray area of a running sprinkler, wait for the sprinkler to move, then retrieve the rocket. Facilities for cleaning the rocket (and yourself) will be available.

Rockets landing ON a sprinkler may be retrieved by a member of the event staff only. Please see a staff person for assistance on retrieving your rocket.



For rockets that land in the settlement pond, they will **ONLY** be retrieved from shore. Casting equipment will be available to try to snag and retrieve your rocket. Rule 10.4 will be applied to the settlement pond for all contests events except D & G egg loft. A row boat will be onsite to assist in retrieving any large/expensive rockets or rockets not coverable by rule 10.4, however, the use of the boat will **ONLY** be done by event staff. If a rocket goes into the settlement pond that you wish to retrieve, please see a member of the event staff for assistance. Event staff will decide if retrieval of a rocket from the settlement pond can be safely attempted, and their decision is final.



**DO NOT, UNDER ANY CIRCUMSTANCES,
ENTER THE SETTLEMENT POND!!**

Week's Launch Schedule:

Monday July 17th, 2017 R & D Deadline for turn in via
US MAIL or otherwise.

Friday July 28th:

AT HOTEL:

- 5pm-9pm **Registration**
- 5pm-9pm **Check-In for FAI Fly-Off Models**
- 9pm **Sport Flier's Meeting**

SATURDAY July 29th:

AT HOTEL:

- 6pm-8pm **Registration**
- 7pm **History of Model Rocketry Presentation**

AT FIELD:

- 8am-430pm **FAI Fly Offs** at Contest Range
- 9am-5pm **Sport Flying**
- 9am-3pm **Sputnik/Apollo Commemorative Launches**,
Open Impulse- Display for People's Choice vote 3pm.
- 9am-4pm **Horizontal Super-Roc**, 12" Min Dia (H & I
Impulse)- Score is Diameter x Altitude
- 930pm **Swamp Gas Night Launch**

Sunday July 30th:

AT HOTEL:

- 6pm-10pm **NARAM 59 Registration**
- 7pm **FAI Fly-Off Contest Awards**
- 8pm- **NARAM 59 Contest Flyer Meeting**
- 8pm-10pm **Craftsmanship Turn-In**

Monday July 31st:

AT HOTEL:

- 7pm ***NAR Annual Town Hall Meeting***

AT FIELD:

- 9am-5pm ***Sport Flying***
- 9am-1pm ***R.I.P. Pink Book Commemorative Launch.***
Launch a Pink Themed Rocket. People's Choice Display for vote 1pm.

9am-5pm Contest Flying:

- C-Altitude (Tracked)
- C-Flex-Wing Glider

Tuesday April 1st

AT HOTEL:

- 7pm- ***B Division Travel Grant Presentations***
- 8pm- ***Research and Development A & B Division presentations.***

AT FIELD:

- 9am-5pm ***Sport Flying***
- 9am-1pm ***High Powered Odd Rock*** (H and Higher Impulse). People's Choice display for vote by 1pm.

9am-5pm Contest Flying:

- B Eggloft Altitude (Tracked)
- G Helicopter Duration C and T Divisions
- D Helicopter Duration A and B Divisions



Wednesday April 2nd:

• AT HOTEL:

8pm- *Research and Development C and T Division Presentations*

AT FIELD:

- 9am-5pm *Sport Flying*

9am-5pm Contest Events:

- C-Payload Altitude (Altimeter)
 - B Super-Roc Altitude (Altimeter)
-

Thursday April 3rd:

AT HOTEL:

- 7pm-8pm *Open Craftsmanship Viewing*
- 8pm- *Cannon Fund Auction*
- 8pm-10pm *Craftsmanship Pick-Up*

AT FIELD:

- 9am-3pm *Sport Flying*
- 3pm-5pm *Imagination Celebration 2017*

9am-3pm Contest Events

- Open Spot Landing
-

Friday April 4th:

AT HOTEL:

- 7pm *Awards Banquet NARAM 59*

AT FIELD:

- 9am-3pm Sport Flying

3pm-3pm Contest Events

- Scale
- Concept Scale

3pm -4pm

**ALL FLIERS ARE EXPECTED TO ASSIST IN FIELD
BREAKDOWN AND STORAGE AT 4pm.**

Commemorative Launches

Saturday July 29th 3-4pm

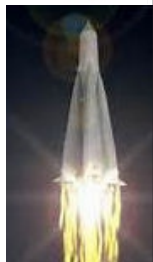
Sputnik 1: 1957

The Soviet Union launched it into an elliptical low Earth orbit on 4 October 1957. It was a 58 cm (23 in) diameter polished metal sphere, with four external radio antennae to broadcast radio pulses. It was visible all around the Earth and its radio pulses were detectable. This surprise success precipitated the American Sputnik crisis and triggered the Space Race, a part of the larger Cold War. The launch ushered in new political, military, technological, and scientific developments.

Sputnik 1 was launched during the International Geophysical Year from Site No.1/5, at the 5th Tyuratam range, in Kazakh SSR (now known as the Baikonur Cosmodrome). The satellite travelled at about 29,000 kilometres per hour (18,000 mph; 8,100 m/s), taking 96.2 minutes to complete each orbit. It transmitted on 20.005 and 40.002 MHz, which were monitored by amateur radio operators throughout the world. The signals continued for 21 days until the transmitter batteries ran out on 26 October 1957. *Sputnik* burned up on 4 January 1958 whilst reentering Earth's atmosphere, after travelling about 70 million km (43 million mi) and spending three months in orbit. *

**Bring any rocket affiliated
with Sputnik 1 to launch!**

* Wikipedia



Apollo 7: 1967

Apollo 7 was the first U.S. spaceflight to carry astronauts since the flight of [Gemini XII](#) in November 1966. The [AS-204 mission](#), also known as "Apollo 1", was intended to be the first manned flight of the Apollo program. It was scheduled to launch in February 1967, but a fire in the cabin during a January 1967 test killed the crew. Manned flights were then suspended for 21 months, while the cause of the accident was investigated and improvements made to the spacecraft and safety procedures, and unmanned test flights of the [Saturn V](#) rocket and [Apollo Lunar Module](#) were made. Apollo 7 fulfilled Apollo 1's mission of testing the [Apollo Command/Service Module](#) (CSM) in [low Earth orbit](#).

The Apollo 7 crew was commanded by [Walter M. Schirra](#), with senior pilot / navigator [Donn F. Eisele](#), and pilot / systems engineer [R. Walter Cunningham](#). (Official crew titles were made consistent with those that would be used for the manned lunar landing missions: Eisele was *Command Module Pilot* and Cunningham was *Lunar Module Pilot*.) Their mission was [Apollo's 'C' mission](#), an 11-day Earth-orbital test flight to check out the redesigned Block II CSM with a crew on board. It was the first time a [Saturn IB](#) vehicle put a crew into space; Apollo 7 was the first three-person American space mission, and the first to include a live TV broadcast from an American spacecraft. It was launched on October 11, 1968, from what was then known as [Cape Kennedy Air Force Station](#), Florida. Despite tension between the crew and ground controllers, the mission was a complete technical success, giving [NASA](#) the confidence to send [Apollo 8](#) into orbit around the [Moon](#) two months later. *

**Bring any rocket affiliated
with Apollo 7 to launch!**

* Wikipedia





**Saturday July 29th
4-5pm**



Ladies and gentlemen you've created a tradition! As **NARAM** celebrates number 59, the **Imagination Celebration** celebrates its tenth incarnation.

If any of our past flights of fantasy conjure up fond memories the past, the Imagination Celebration has done its job. The magic only happens when our rocket family flies together. All fliers are welcome, whether you have flown in an **Imagination Celebration** before or not. All we ask is that you follow the guideline below:

Imagination Celebration Guidelines:

The object is to use all of the technologies of model rocketry to produce motion, shapes, light, sound and color in the sky in a manner pleasing and emotionally moving to the human observer on the ground. These characteristics are always valued:

- Size and Visual Impact: How visible is it? Does it jump out at the viewer or do you have to squint to see it?
- Showmanship and Artfulness: Is it exciting? Is it Beautiful? Does it elicit emotion, sensation, entertainment or humor?
- Originality: Make the most of your original designs!

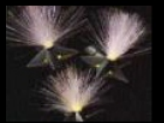
Whether you watch or fly, your job is equally important. Let's add to that stockpile of memories we've been building.

Rob Edmonds

Host, **Imagination Celebration 2017**



Rocketry Festival 2017 Swamp Gas Night Launch



- >Open Night Launch and contest Saturday evening 10:00 to 12:00.
- >Contest range will be utilized for open Night Launch and Contest.
- >Contest range and paths will be illuminated in red light mode. All night flyers are required to wear and use red filtered flashlights, low power LEDs or chemical lights.
- >Do not illuminate white light flashlights in the night launch prep or launch areas.
- >Follow NAR Safety Rules
- >All separate return parts must be illuminated

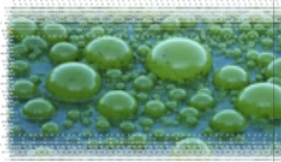
Swamp Gas Night Launch Contest:

>Rocket check-in and pad placement with Night Flight Cards

>Rocket will be judged for:

- >Originality
- >Uniqueness
- >Launch Pad "WOW" Factor
- >Decent phase "WOW" Factor
- >Decision of Judges is final

(Judges abstain from participating in contest)



Swamp Gas Night Launch Awards:

- >Outstanding Swamp Gas Night Launch Glider
 - 1st 2nd 3rd
- >Outstanding Swamp Gas Night Launch Rocket
 - 1st 2nd 3rd



Two High Powered Festival Contest:

All High Powered events are open to High-Powered certified contestants and Sport Fliers. All High Powered flights are made at the Sport Range.

I- Horizontal Super-Roc:

Horizontal Super-Roc comprises a single event open to any model rocket. The purpose of this competition is to maximize the altitude and the diameter of the rocket. This contest is designed to empathize creativity in construction. The rocket must have a minimum diameter of 12 inches , as determined in the scoring section below, and must be able to safely fly with a motor in the "I" motor class.

Flight:

A single-deployment entry must use a parachute recovery method. A Dual-deployment entry does not require a parachute at apogee but it must use a parachute for the main deployment with a minimum altitude set of 500 feet AGL. With such high drag rockets, it is possible that a rocket may not reach the minimum altitude of 500 feet, and this fact alone will not disqualify the rocket, but all altimeters must be set to deploy the main at no less than 500 feet. Rockets that fail to deploy a parachute will not be considered a qualified flight.



High Power Set Altitude: 420 Meters

Rocket closest to the set altitude without going over wins! Just be sure to register with the LCO before launch to confirm flight.

Odd Roc Flights of all Impulses!

Launch an **Odd Roc** of any impulse from 9am to 1pm on May 1st! Leave them for People's Choice vote.



Carnival Launch: Open all Rocketry Festival!

Launch a rocket from the Sport Range aimed at the "**Carnival Landing Zone**" grid and win a prize based on

R.I.P. Pink Book Launch!

Launch any **Pink Themed** rocket of any motor impulse on Monday July 31st and leave it for **People's Choice** vote by 1pm.



The "Best Midwest Qualified Flight" Award

by Bob Kaplow NAR #18L

In the mid 70s, Midwest competition standards were considered by outsiders to be somewhat lax: just about any flight that didn't hit someone was considered qualified! If a rocket DID hit someone, we took into account who was the victim. Since then, a marginally qualified flight became known as "Midwest Qualified".

The Best Midwest Qualified Flight award was first presented by Steve Behrends at NARAM-19 to the most spectacular prang of the week. The winner was Bob (Brandy) Bruce who flew a scale-like 2 stage rocket that crashed, staged, and took off again, dubbed "Phoenix Arise". Ironically, it was one of the very few sport flights back when 98% of the models flown at NARAM were competition, and most of the 2% were test flights. IIRC, Steve also "retroactively" awarded NARAM 17 and NARAM 18 winners.

Later awards were a joint effort headed by Matt Steele and Chris Pearson of SNOAR fame. Bob Kaplow was a frequent co-conspirator, and inherited the duty when they moved on. The torch was passed to Chad Ring at NARAM-51 to simplify the nomination process, since any flight that threatens injury to him is considered an automatic nominee and defaults to the "pole position". The panel of judges usually consists of the RSOs and LCOs from the NARAM and sport ranges. Historically, the award is constructed out of the remains of crashed rockets and other NARAM debris collected during the week. Often part of the winner's crash is included in the trophy.

Much notoriety is attached in being nominated for the award. The only thing worst is to actually win! I've had the misfortune of having to nominate myself for the award once, at NARAM -39, when my Wylie Coyote rocket crashed into Mark Johnson's van, and left a rubber streak on the side window. Mark has preserved this streak for several years now. Fortunately, I did not win.

It's too easy to just auger in a really big rocket. While that is good enough for a nomination, much of what makes for a winner is "style" points. Style points can be earned for doing spectacular aerobatics. Or for selecting a particularly good target like the RSO, the CD's car, a tank, or phone line to hit. Or for pure stupidity.

While the sport range generates some interesting prangs, competition events seem to particularly attract nominations for this award, including Plastic Model Conversion, Eggloft, Scale, Gliders, particularly Radio "Controlled", clusters, or a very long burn motor (F7, D3). It's pretty much according to Murphy's law: whatever events have the most opportunity for something to go wrong. REALLY WRONG.

Here's what I've pieced together in the way of the history of the award winners and a few honorable mentions:

NARAM 17: [Jim Hartman; PMC Pan Am Space Clipper that smacked phone line]

NARAM 18: [Bruce Blackstone; Disaster Valkyrie HCO shred]

NARAM 19: Bob Bruce; "Phoenix Arise" sport flight

A big "Thank You" to our sponsors and Vendors:

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eRockets



STAFF

Contest Director - Pamela Gilmore

Equipment Managers - Joe Mosher/John VanderVoord

Webmaster - Rob Dickinson

Contest Manager Guru/Field Network - Chris Knewell

Logo Design - Jeff Graham

Participant's Guide - Matt Johnson

Vendor Coordinator - Tay Gilbert

Waiver Master - Matt Johnson

HPR Assistant - Rob Dickinson

Eggman - Bob Alway

Field Manager - Dave Gilmore

Motor Coordinator - Randy Boadway

Registration & First Aid - Nancy VanderVoord

Equipment Support - Jackson Model Rocket Club

Food Tent - Area Boy & Girl Scouts

Trophy Girl - Amanda Boadway

Supporting Cast - Dale Fisher, Kyme Fisher, Kaelleyn Idema-Fisher, Kohlten Fisher, Wayne Overly, Bob Bycraft, and all others whom are too numerous to mention, please know that your help and support during this endeavor has been priceless to me.

