

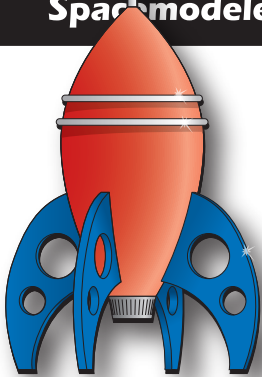
2006 NAR Medium Section of the Year

2007 NAR Medium Section of the Year

MASA Planet

Minnesota Amateur
Space Modeler Association

Volume 10, Issue 2
September-October 2007



MASA

Established January 1998
NAR Section 576

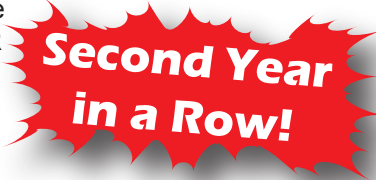


MASA Chosen as Section of the Year for Medium-Size Rocket Clubs

NAR Recognizes MASA at NARAM

For the **second** year in a row, the NAR has awarded MASA with the prestigious **Section of the Year Award for Medium-Sized Sections!** NAR announced the winners of this year's Section of the Year Awards at NARAM 49. Congratulations to all MASA members who contributed to us winning the Section of the Year Award!!

NAR bases section size on the number of NAR members within a certain section. At the time that MASA submitted the Section of the Year Questionnaire, we had 28 registered NAR members (up from 27 last year). Small Sections have 5 to 25 NAR members, Medium Sections have 26 to 46 NAR members, and Large Sections have 47 or more NAR members.



The Section of the Year Award is based on several categories including (but not limited to): growth of NAR Membership, media coverage, website/internet usage, national event hosting and attendance, newsletter, regular launches and meetings, and outreach activities. The contest year for 2007 ran from the July 1, 2006 through June 30, 2007, and the winners were announced at NARAM 49, which was held in Kalamazoo, MI from July 28 through August 3, 2007.



Contributors to this issue:

- Caleb Boe
- Ted Cochran
- Mike Erpelding
- Alan Estenson
- Ken Jarosch
- Ray King
- Carol Marple
- Glen Overby
- Chris Taylor
- Jeff Taylor

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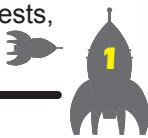
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On-Line Rocketry Forum Has Something for Everyone www.rocketryforum.com

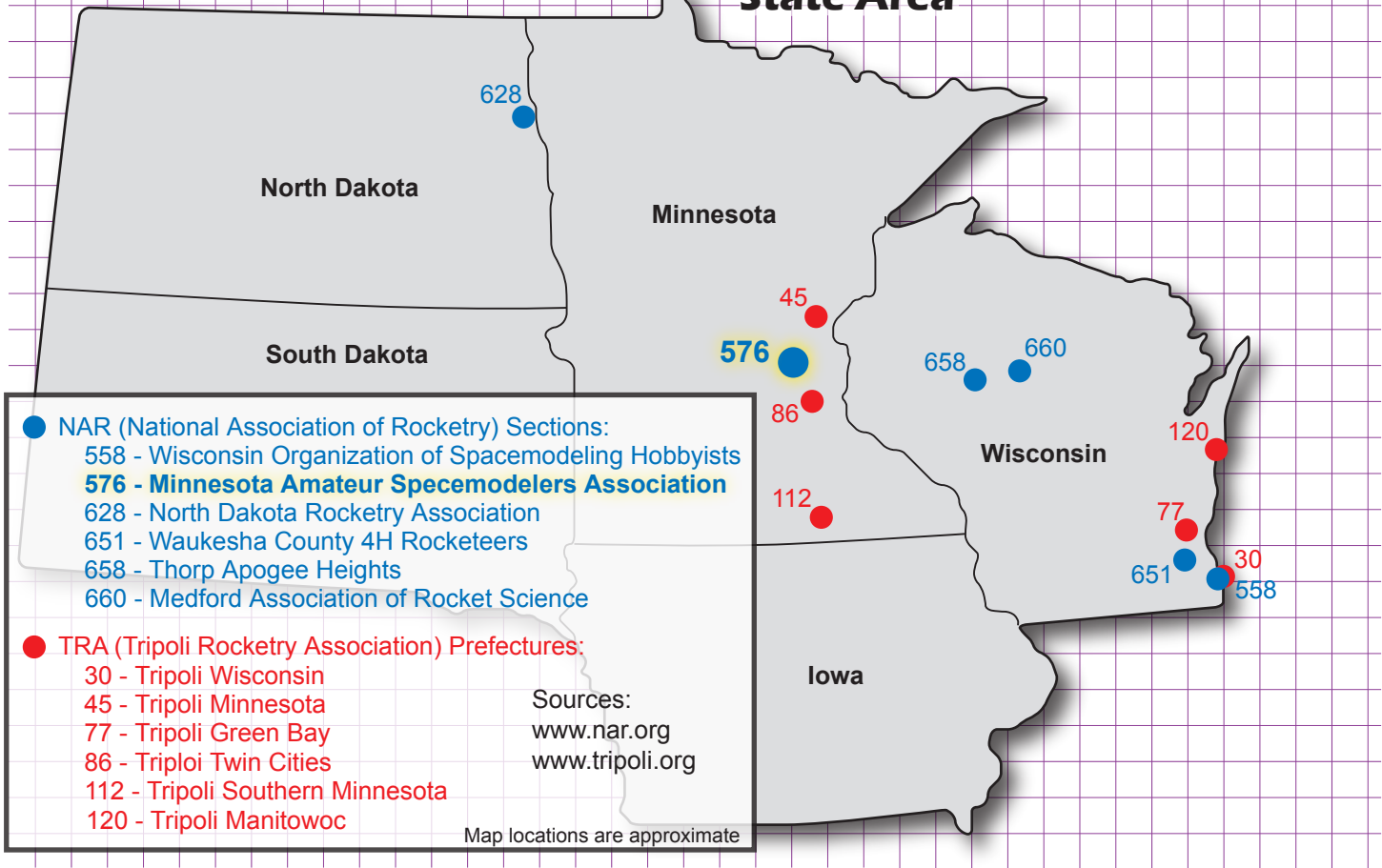
The Rocketry Forum (www.rocketryforum.com) is an on-line forum that literally has something for everybody. Post and read messages with other rocketeers about all aspects of the hobby. Find out how other rocketeers handled the issues you have with that latest kit you are working on, or just log on to show off your latest paint job. It's fun, informative and it is free. Sections include low, mid and high-power rocketry, propulsion, support & recovery, product reviews, techniques, rocketry contests, events and even a yard sale. Check it out today!

The Rocketry Forum logo used with permission.



MASA Planet

Recognized NAR Sections and TRA Prefectures in the Five State Area



From NARCON 2007...

The Baikonur World Championships

Presented by Trip Barber, NAR Vice President

Reported by MASA's Ted Cochran

Previously published in the July/August 2007 issue of *Sport Rocketry Magazine*, and reprinted in the *Planet* with permission

Trip Barber's presentation on the recent FAI International Rocketry Competition at the Baikonur Cosmodrome in Kazakhstan was a great companion to *Sport Rocketry's* March/April 2007 article, which was just hitting the streets at the time of his talk. Part travelogue and part launch report; Trip first wowed the attendees with slides from the U.S. team's tour of the Cosmodrome. Moving on to the competition, Trip did a great job portraying how difficult international competition is, especially given the team's relative lack of experience, the language barrier, and the fact that all of the models and motors had to get through customs. Or not (many of the team's motors never arrived in time for the contest). Trip finished with a pitch for audience members to consider trying out for the next U.S. team at NARAM later this year.

Model Rocketry Safety Report

Presented and Reported by MASA's Ted Cochran

Previously published in the July/August 2007 issue of *Sport Rocketry Magazine*, and reprinted in the *Planet* with permission

In 2003, after a rash of worrisome near-misses, Jay Apt led a Special Committee that produced a report, *Launching Safety in the 21st Century*. The committee recommended that NAR improve its High Power Safety Code, that it work with NFPA to incorporate changes in the 2007 edition of NFPA 1127 Code for High Power Rocketry, and that it establish a permanent Safety Committee. All of these recommendations were implemented, and in 2006 the membership of the NAR approved a change to the bylaws to establish the Safety Committee as a standing committee. Ted's presentation was a cross between a progress report, a safety briefing for new fliers, and a call to action for Association members.

Ted reviewed the risks of rocketry from an historical perspective. Even though it is against the Safety Codes, electrocution during retrieval of rockets caught in power

Continued on the Next Page...



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lines continues to be a risk, and clubs were urged to develop policies to address that concern. Wildfires, and being struck by rockets, round out the top three risks. Ted reviewed current regulations and described precautions clubs could take with respect to both of these hazards.

Make-It Take-It



Photo by Carol Marple

Semroc's Booth in the Vendor Area



Photo by Carol Marple

Jim Flis of FlisKits Auto-graphs Jeff Taylor's Deuces Wild



Photo by Carol Marple

Rocketry in Schools with a Make-It Take-It Session

Presented by MASA's Andy Heren

Reported by MASA's President Mike Erpelding

Previously published in the July/August 2007 issue of *Sport Rocketry Magazine*, and reprinted in the *Planet* with permission

On Saturday at 9:00 AM, Andy Heren did his building session. Quest Aerospace generously donated twenty-five Aries kits for the Make It Take It. The Aries is a great kit for beginners who are just learning about rocketry. It comes complete with a plastic fin can that is easy to assemble in just minutes – no worries about aligning balsa fins or launch lugs. This kit also has two transitions, giving the nosecone a realistic satellite lofter look. Additional pieces are included that can be glued on the outside of the rocket, if desired, to add more realistic-looking details.

This session was available on a first come, first served basis by signing up at the registration table outside the vendor room. Twenty-one kids, 18 and under, signed up to participate. This session was held in the Hiawatha A room on the mezzanine level of the Kahler Grand Hotel, which was the most remote room of the convention. Some MASA members were kind enough to wait in the hall to help guide the participants to the class.

Andy had a nice handout on how to use rocketry to help teach various school curriculums, which he distributed to the adults attending the session. It was great to see adults working with their kids to assemble the rockets. The kids were having a blast! The parents seemed to be having a great time too.

My wife Amber also attended this session with me. She had never built a model rocket before, so we let her assemble one of the leftover kits. She also had a great time.

NAR Junior High Power Certification

Presented and Reported by MASA's Caleb Boe

Previously published in the July/August 2007 issue of *Sport Rocketry Magazine*, and reprinted in the *Planet* with permission

High Power Rocketry (HPR) involves the use of H motors or larger. In order to purchase and use HPR motors you must become certified through either the National Association of Rocketry or the Tripoli Rocketry Association. Historically, you had to be at least 18 years old to certify. However, the NAR allows members of ages 14 and older to certify under certain restrictions through its Junior High Power Certification program.

Some important things to do before certification are: become a NAR member (of course), join a local NAR section, get experience with F and G motors first, and plan ahead. Getting a job would also be a good idea, since HPR rockets are expensive. For your certification flight, it is best to use a rocket that is built from a kit, and to certify with an H motor. The main reason is to keep certification flights as simple as possible. After certification is achieved, there are many fun things that you can do with HPR rockets.

[Editor's Note: Last summer, Caleb became MASA's first certified Junior High Power Rocketeer. Congratulations Caleb!]



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2007 Launch Windows

Subject to Change - Check MASA Website for updates

MASA September Launch

Saturday September 22 9:00 AM - 4:00 PM
Nowthen Launch Site
Theme: Science Fiction & Fantasy Rockets

MASA October Launch

Saturday October 27 9:00 AM - 3:00 PM
Nowthen Launch Site
Theme: Halloween, "Missiles of October"
Events: Goblin Drag Race

MASA November Launch

(One week earlier than normal)
Saturday November 17 Time: TBD
Launch Site: TBD

IMPORTANT LAUNCH NOTES:

All MASA Launches are "Misfire Alley" (bring your own launch pad and controller)

All launches at the Nowthen Launch Site will have an FAA Waiver to 5500 ft MSL (about 4500' AGL)



2007 Meeting Schedule

Subject to Change - Check MASA Website for updates

MASA September Meeting

Thursday September 6 7:00 PM - 9:00 PM

MASA October Meeting

Thursday October 4 7:00 PM - 9:00 PM

MASA November Meeting

Thursday November 1 7:00 PM - 9:00 PM

MASA December Holiday Party

Date: TBD
Location: TBD

IMPORTANT MEETING NOTES:

Unless otherwise specified, all meetings shall be held at the Science Museum of Minnesota in St. Paul, Classrooms 11 & 12

MASA Directory

Minnesota Amateur Spacemodeler Association
Established January 1998
Founding President: Russ Durkee
NAR Section 576

Club Website

www.masa-rocketry.org

President

Mike Erpelding
fizzbin@meltel.net

Vice President and Webmaster

Alan Estenson
estenson@mn-rocketry.net

Secretary/Treasurer

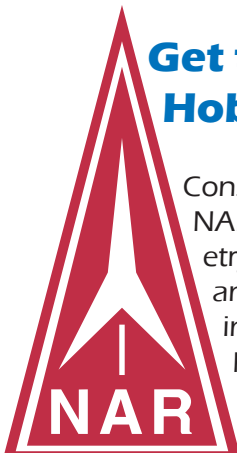
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The MASA Planet is the official newsletter of the Minnesota Amateur Spacemodeler Association. It is published bimonthly as a service to its members. MASA authors and photographers retain rights to their submissions, which are used by permission. Send submissions to jeff.taylor@mn-rocketry.net. The Planet is available in color on MASA's web site: www.masa-rocketry.org

If your email address, U.S. Mail address, or phone number changes: Please send notice of your change to masa@mn-rocketry.net. Include your name and old and new addresses. We depend on email for communicating important information. When an email address starts "bouncing", we lose contact with you.



Get the Most Out of Your Hobby - Join the NAR

Consider becoming a member of the NAR (National Association of Rocketry), and help promote the safety and future of our hobby. For more information about the NAR and on how to become a member, visit the NAR's web site at www.nar.org



Local Hobby and Model Shops

Source: Minneapolis/St. Paul Yellow Pages

Brooklyn Park...

Hobbytown USA 7916 Brooklyn Blvd (763) 424-5900

Burnsville...

RC Car Kings 1307 Hwy 13 E (952) 895-9643

Coon Rapids...

C & A Collectibles 528 Northdale Blvd NW (763) 757-3036

III Rail Trains 536 Northdale Blvd NW (763) 767-9545

Edina...

Air Traffic 6601 France Avenue S (952) 928-8010

Hopkins...

Steve's Train City 912 Mainstreet (952) 933-0200

Lino Lakes...

Jerry's Radio Control 8322 Lake Dr (651) 786-1336

Little Canada...

Hub Hobby Center 82 Minnesota Ave (651) 490-1675*

Minneapolis...

Hobbytown USA 1750 Weir Dr (651) 702-0355

N Shop 3956 Lyndale Ave N (612) 521-8909

Minnetonka...

Hobbytown USA 11319 Hwy 7 (952) 931-2262

New Brighton...

Beckers Model Railroad Supply 2166 Silver Lake Rd NW (651) 635-9480

Osseo...

Osseo Sports Train World 340 Central Ave (763) 425-7171

Richfield...

Arts & Crafts 6600 Lyndale Ave S (612) 236-1482

Hobby Warehouse 7144 Chicago Ave (612) 861-5587

Hub Hobby Center 6410 Penn Ave S (612) 866-9575*

Sky's the Limit Hobbies 7138 Chicago Ave (612) 861-5587

St Paul...

Choo Choo Bob's Train Store 2050 Marshall Ave (651) 646-5252

Marine Model Products (651) 631-0115

Scale Model Supplies 458 N Lexington Pkwy (651) 646-7781

South St Paul...

Central Hobbies 401 15th Ave N (651) 457-4740

In addition, many Michaels Craft Stores carry limited rocket supplies

* Show your MASA Badge at either Hub Hobby location and receive a 10% Club Discount! Ask a Hub employee for details.

[NOTE: This list is compiled from the Minneapolis/St. Paul Yellow Pages and is not guaranteed to be accurate. Some shops listed above do not carry rocketry items, but could be a potential source for building supplies, tools or paint. Call the phone number listed before going to a shop if you are unsure of what items they may carry.]

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Sharpen your rocketry skills and earn certification while doing what you love to do – flying rockets!
Check out the Bronze, Silver and Gold NARTREK Certification Program at www.nar.org

MASA Planet Submission Deadlines

2007

Volume 10 - Issue 3 (November – December)

Submissions Due: October 25, 2007

Approximate Print Date: November 1, 2007

2008

Volume 11 – Issue 1 (January – February)

Submissions Due: December 25, 2007

Approximate Print Date: January 1, 2008

Volume 11 – Issue 2 (March - April)

Submissions Due: February 25, 2008

Approximate Print Date: March 1, 2008

Volume 11 – Issue 3 (May - June)

Submissions Due: April 25, 2008

Approximate Print Date: May 1, 2008

Volume 11 – Issue 4 (July - August)

Submissions Due: June 25, 2008

Approximate Print Date: July 1, 2008

Volume 11 – Issue 5 (September - October)

Submissions Due: August 25, 2008

Approximate Print Date: September 1, 2008

Volume 11 – Issue 6 (November - December)

Submissions Due: October 25, 2008

Approximate Print Date: November 1, 2008

Submissions should be emailed to:
jeff.taylor@mn-rocketry.net



Sunward's Khufu's Pyramid Kit Review

By Ken Jarosch

This kit review is for Sunward's Khufu's Pyramid. www.sunward1.com

The rocket is a 4 sided pyramid over 6" tall with a base of 5-1/4". The pyramid uses rear ejection of the motor mount for dual recovery. The motor mount has a streamer and the pyramid body has a 18" plastic chute. The recommended motors are C11-3, D12-3 or an E15-4W. Because of size limitations and stability factors all are SU types. One price I had seen for the kit was \$19.00. All the parts are high quality and the balsa and plywood parts are laser cut. All the wood parts fit perfectly with only a little edge sanding to match adjacent angles. The instructions are good with a few exceptions. A few sentences are left unfinished as if they were overlaid with the details. Step 11 a) has you attach the loose end of the shock cord to the motor mount which uses separate recovery. Step 12 f) has that same end correctly tied to the 18" parachute.

The kit starts out by having you cut out, crease, fold and temporary tape a white cardstock template. This forms the outside body of the pyramid ala AppleWhite style. The kit involves a lot of testing for sizing. There are 8 right triangle pieces that make up 4 matched pairs sets as internal structure of the pyramid. These are sanded at 45d along the hypotenuse edge to form the corners of the pyramid edges. After these are test fitted and removed the template is glued. Then the sanded balsa pairs are glued in place to the inside of the template. This forms the internal balsa walls of the pyramid. With good testing the fit is tight and true. This you dry upside down overnight in a container. I used the rear bulkhead to square it up.

When the balsa lined paper pyramid has dried you have to add the nose weight. The kit supplies 88 grams of Plasticene for that purpose. The instructions call for you to use 60 grams of this material if you are going to only use C11's or D12's. If you intend to use an E15-4W, then you are instructed to use the extra nose weight. That is 2 oz. for C11's and 3 oz. for the E15's. D12's would work with either setup. You make the decision at step 5. I chose to add the 88 grams.

The kit comes with 2 plywood bulkheads. The forward

bulkhead has its edges sanded at 60d angle to match pyramid walls. Then it is epoxied just behind the nose weight. You also apply a thin layer of epoxy to this bulkhead face as a protection from the ejection gasses. With the full 88 grams it was a tight fit. I had to push and shove the Plasticene around to get the bulkhead flat and in place.

The internal body of the rocket is a BT-70 coupler. One launch lug is glued to the top half of the coupler. This module is then used as to determine where to cut the oval hole in the balsa/paper wall of the pyramid just adjacent the forward bulkhead. I used a lot of pilot pin holes first. After the hole is made you check the fit of the coupler/lug module inside the pyramid shell. Then you sand the rear bulkhead edges at 60d. This bulkhead is the main body support. This you place in the pyramid over the BT-70 coupler/lug module to check for fit and adjust any misalignment. If all fits you remove the bulkhead and coupler module and glue the remaining launch lug to the bottom half of the BT-70 coupler. You now have the coupler with launch lugs sticking over the top and bottom edges. These are trimmed after the final assembly.

At this point you have the balsa/paper pyramid with the nose weight and forward bulkhead in place. You then epoxy the BT-70 coupler with the 2 lugs to the this forward bulkhead. As the bulkhead is sized exactly as the diameter of the coupler it is a tight fit. The front lug sticks out the pyramid wall.

Once this dries you tie one end of the shock cord through two holes in the rear plywood bulkhead. Then you are to glue the bulkhead over the BT-70 coupler/lug module for the base plate. Before I did this I ran an epoxy layer over the outside of the coupler for strength. Also I wiped the the wall seams with a thin layer. This added a little to the final weight. The two launch lugs that stuck over the BT-70 coupler are trimmed to the face of of the pyramid wall and bottom edge of the coupler. This completes the main part of the pyramid.

The motor assembly is straight forward. Parts include the motor tube, hook, motor block and the special plywood centering rings that fit inside the coupler. The long streamer is tied around the motor tube just inside the rear centering ring. This provides for the motor mount recovery.

The 18" parachute is assembled and the shroud lines form a loop to tie to the loose end of the shock cord. The pyramid body recovery is separate with this 18" chute. This completes the rocket. Special instructions are given



Continued on the Next Page...



Khufu Kit Kontinued...

on how to pack the chute, shroud lines, shock cord and streamer in the motor tube area. The motor mount must be forward in the BT-70 coupler touching the forward bulkhead for maximum stability. This puts the rear centering ring about a 1/2" inside the BT-70 coupler.

The unpainted weight of my pyramid was 6.2 oz. without motor. For a comparison of motors weights and liftoff limits I offer the following;

Motor: Weight: Liftoff Weight:

| Motor: | Weight: | Liftoff Weight: |
|--------|---------|-----------------|
| C11-3 | 32.2 g | 6 oz. |
| D12-3 | 42.2 g | 14 oz. |
| E15-4W | 48.0 g | 16 oz. |
| D21-4T | 28.0 g* | 16 oz. |
| D24-4T | 36.0 g* | 16 oz. |
| D13-4W | 38.0 g* | 16 oz. |

* includes 5 gram weight of 18/24mm adaptor.

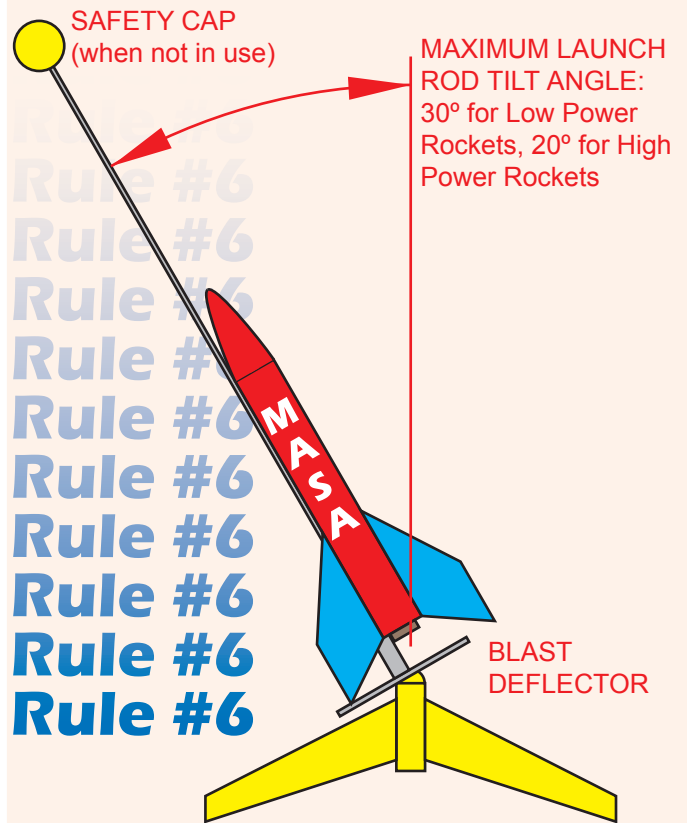
If you want to fly C11-3's use the 2 oz. nose weight. Then the 5+ oz. rocket and the 1+ oz. motor comes close the the C11's liftoff weight. Other wise use the 3 oz. nose weight and the D's and E15' should have no problem.

I was disappointed at first that I couldn't use my 24mm reloads. There is no room in the kit motor mount and making a new mount so that RMS would fit would place the 24mm RMS well behind the current location making the rocket unstable. However using a 18mm adaptor allows for the use of the light weight D21 at 23 grams and the high thrust D24 of the RMS. This solves the SU cost, saves weight and provides a maximum thrust curve. Also you can fine tune the delay times a little.

Bottom line: This kit fills in where AppleWhite's pyramids leave off. Sunward's pyramid uses active recovery versus passive recovery of the Applewhite's kits. The packing and motor mount ejection will have to work right as these heavier and studier models will come down hard if the chute system fails. \$19.00 for the kit is a little pricey but the parts fit like a glove with only a minimum sanding for the angles. I like the C11's but to use the 2 oz. nose weight would limit any upper motor use. I dislike the D12-3's because of the cost vs a D15 or D24 RMS. The E15-4W seem like a high price just to fly AP in this pyramid. I think the 18mm D24-4T with the high peak thrust (9 lbs) and short duration (1 sec.) profile should prove an excellent match for this rocket. Also the 3 pack cost makes for a reasonable value in each flight. The only concern I have is losing a casing in the separate motor mount recovery. It might be hard to spot the small object in the grass or weeds. I might try the D21-4T on first flight to get an idea of the problem.

I'll write a flight report when I get a chance to try the pyramid.

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NAR Model Rocket Safety Code Reminder

Rule #6

Launcher. I will launch my rocket from a launch rod, tower, or rail that is pointed to **within 30° (20° for high power)** of the vertical to ensure that the rocket flies nearly straight up, and I will use a **blast deflector** to prevent the motor's exhaust from hitting the ground. To prevent accidental eye injury, I will place launchers so that the end of the launch rod is above eye level or will **cap the end** of the rod when it is not in use.

At the next launch,
PLEASE consider staying
after to help take down and
pack up the flight range.
THANK YOU!



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July Launch Report

By Alan Estenson

On Saturday, July 28th, MASA held its seventh launch of the year. This launch was held at the sod farm near Nowthen.

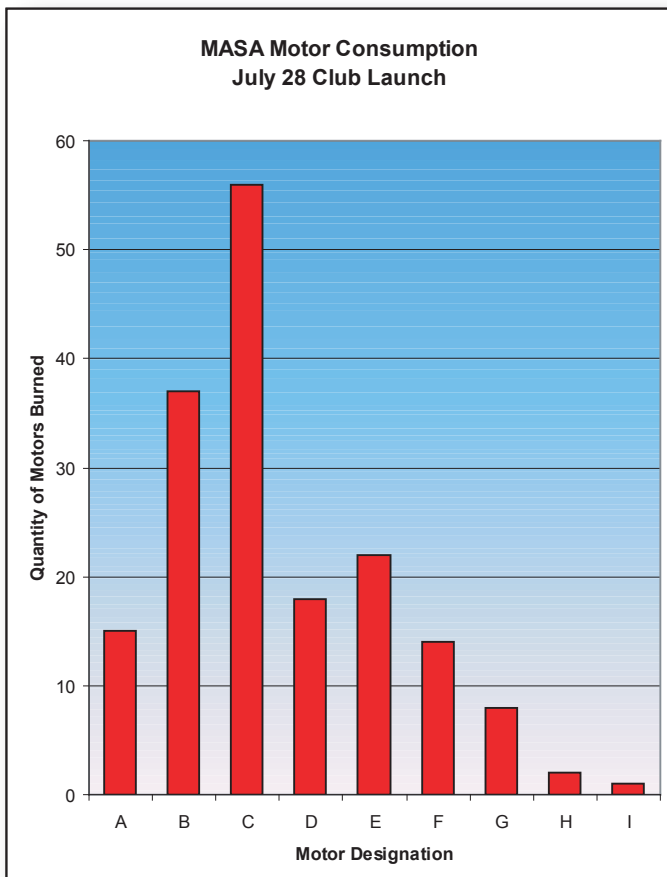
It was darn-near-perfect rocket flying weather. Sunshine, blue skies, warm temperatures (but not too hot) with just a light and variable breeze (mostly out of the S-SE). The 9-foot-tall EVIL corn was in abundance around the sod farm. A few rockets found their way into it, and only some of those found their way out again.

The theme for the day was "clusters"! Many fliers took the theme to heart and had some fun with it. There were a total of 24 flights that used a cluster of 2 or more engines.

This launch saw the first-ever hybrid motor flights at a MASA launch by Glen Overby and David Whitaker.

Thanks to the LCO/RSO volunteers: Alan Estenson, Jeff Taylor, Ken Jarosch, and Buzz McDermott.

The totals were: 126 flights, 173 motors. The cumulative total impulse was 4257 Ns with an average total impulse of 24.6 Ns.



August Meeting Minutes

By Alan Estenson

The August 2007 MASA meeting was held on the 2nd at the Science Museum. 8 people attended the meeting. The summer picnic was a big success on July 21. Attendance was in the high 30's, the weather was nice, and people had a good time. Over 60 flights were tallied at the afternoon launch. The July 28 launch had beautiful weather and a good turnout of people. The next launch will be on August 25 at Nowthen. The theme will be Science Fiction & Fantasy rockets. We'll also have the annual UFO and Comanche-3 drag races. The next meeting will be on September 6. Meeting topics (and volunteers) are needed for the September, October, and November meetings!

Show -n- Tell

Alan Estenson brought along a Semroc Goliath and a Semroc Aerobee Hi. Both recently completed and flown for the first time at the July 28 launch.

Ken Jarosch brought a Quest Courier modified for 24mm motors. He also brought "Khufu's Pyramid"; he won the kit at the picnic and just finished building it.

Tim Barr showed an idea for using the end & cap of a pill bottle as a motor retainer.

Video Rockets

The topic of the meeting was "video rockets" led by Dwayne Shmel. Dwayne talked about how he started out with the Estes Oracle video rocket. He showed a couple videos from his Oracle flights. After that, he moved up to using the Boostervision live downlink video system, and he showed some of those videos. Dwayne brought in the cameras and his handheld antenna/receiver/camcorder rig. He talked about the types of cameras and other sources for them than just Boostervision. He also talked about the various types of antennas that you can use to improve reception of the signal. Dwayne had prepared handouts and cd-roms of rocket videos for the meeting attendees.

Video Rocket Web Sites

<http://www.boostervision.com/boostervision/default.asp>

<http://www.swann.com.au/region/usa/entry/us>

MicroCam2 info:

<http://www.swann.com.au/s/products/view/?product=347>

Antenna source:

http://www.sharperconcepts.net/2.4_ghz_wireless_antennas.php

(Make sure you order a SMA-Male type connector. NOT reverse polarity.)

<http://qdg.sorbs.net/qdgant.htm>

Flat patch antennas:

<http://www.highgainantennas.com/ProductDetails.asp?ProductCode=HG2414>

SMA Cables: <http://www.dataaccessories.com/sma.html>

Build your own patch antenna: http://www.rc-cam.com/gp_patch.htm



August Launch Report

By Alan Estenson

On Saturday, August 25th, MASA held its eighth launch of the year. This launch was held at the sod farm near Nowthen.

To put it simply, it was a gorgeous day for flying rockets.

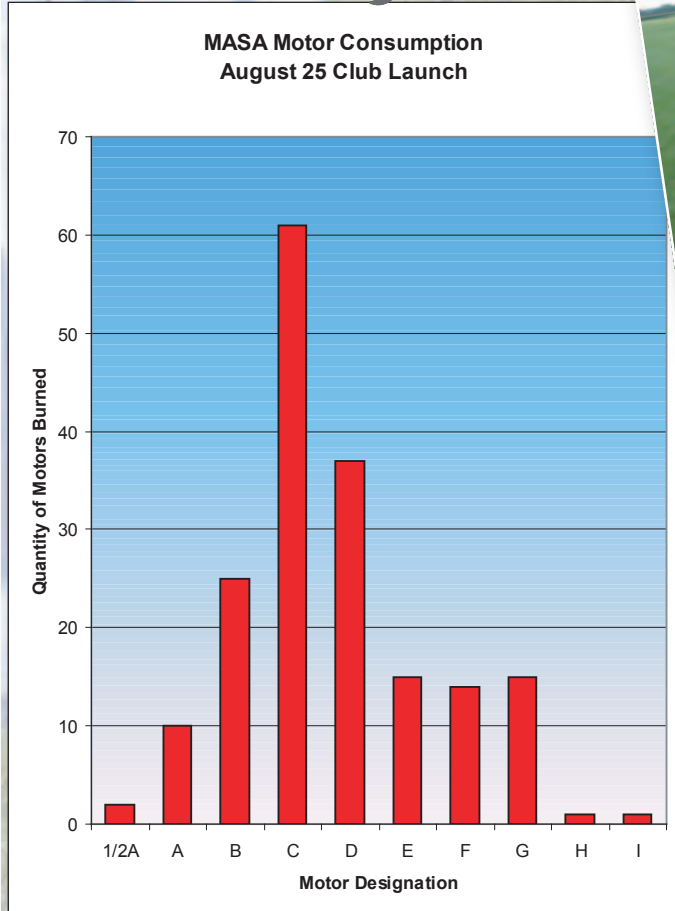
The theme for the day was multi-staging. There were a total of 17 multi-stage flights.

Since it was August, it was time for the Annual Great UFO Drag Race. Five UFO's of varying sizes and styles were flown this year.

It was also time for the annual Comanche-3 drag race. Six of those 3-stage birds took to the skies on a wide variety of motor combinations. Five of them were completely successful while one suffered a lawn dart.

Thanks to the LCO/RSO volunteers: Alan Estenson, Mark Thell, Ken Jarosch, David Whitaker, and Ted Cochran.

The totals were: 148 flights, 181 motors. The cumulative total impulse was 4929 Ns with an average total impulse of 27.2 Ns. 🚀



MASA Planet



Photo by Glen Overby



Der Big Red Max

Photo of Alan Estenson
Photo by Alan Estenson?



David Whitaker Prepares for a Hybrid Launch

Photo by Glen Overby



Mark Thell Gives the Thumb's Up

Photo by Alan Estenson

Comanche-3 Drag Race

- Comanche-3 Pilots:
- Ted Cochran
 - Neal Higgins
 - Ray King
 - Mark Thell
 - David Whitaker
 - Ron Wirth



Photo by Alan Estenson



MASA Planet

Reporting from the Nationals

My First NARAM (NARAM-49)

By Ray King

NARAM-49 was held July 28th through August 3rd - remember those 98 degree days with little to no rain - it wasn't any different in southern Michigan. This year NARAM was hosted by SMASH and was held in Delton Michigan at the Michigan Farmers Hall of Fame. In addition to NARAM, the FAI fly-offs were also held during the week-long activities. Here are some NARAM stats: There were 265 registered participants with 102 participating in the competition. On the sport range there were 1094 total launches, in addition to the competition launches. And, finally 5 square miles of "rocket eating" corn all down wind.

I am not sure how many MASA members have ever participated in NARAM before, but if you ever have the opportunity, take it. This was my first NARAM as well as my first rocket competition. It was the most challenging, thrilling, exciting and fun time I have ever had flying rockets. Here is my NARAM story.

I am fairly new to model rocketry. Only flying for a few years, and with my work schedule and kid's activities, only flying a few times a year. So the thought of taking an 8 hour trip to fly rockets seemed a little crazy, but I was motivated and committed. My motivation started at NARCON this year after hearing Trip Barber talk about the international competition (FAI); I decided I wanted to tryout for the team. I assumed my chances were slim, but at least wanted to participate.

I have divided this article up by day with a quick summary of the highlights from each day.

Friday - After the long drive, especially through Chicago, I arrived at the NARAM hotel with the surprise that it was under construction; not a little construction - but massive remodeling which was planned to be complete the month before. Even though my first impression of the hotel was a little scary, the hotel did an excellent job meeting our needs, including an entire floor for painting rockets (the fourth floor was still under construction and available for whatever we needed).

The competitors meeting and model inspection for the FAI competition occurred Friday night. Each of the three models I constructed passed inspection (Whew!). There were about 30 competitors, most who had experience in fly-offs as well as international competition. As I said this was my first experience in competition, and I knew I would learn a lot. Well my first learning was that FAI competition

NARAM Competition Check-In and Launch Control



is made up of three rounds which are then added together to reach a total score. In addition, most of the competitors plan to use one model per round with no returns required. I built 3 models for 2 events (6 rounds) (parachute and streamer duration) so I would have to recover each model to participate in both events.

FAI competition would fly 5 different events: Parachute Duration, Streamer Duration, Helicopter Duration, Glider Duration, and RC Glider. Each round had a one hour time slot to fly within, and to be competitive you needed to fly each round. The team selection was based on the top 3 finishers in each event.

Saturday - I arrived at the field Saturday morning with that nervous anticipation. I was very impressed by the location. It was a large grassy field surrounded by hay and corn fields (model eating).

FAI competition consisted of one hour time slots for each round and event. The first event was parachute duration. After engine and model check-in, I prepared for my first launch ever in competition. After 10-15 minutes of waiting for the wind to die down and "the right" air I signaled the RCO I was ready for launch. 5...4...3...2...1 - my first model was launched-or at least tried to launch; unfortunately, it was DQ'd for "unsafe" (BUMMER!). I found that my tower launcher could, if conditions were just right, cause the model to become unstable. A couple of small modifications and I was ready the next round. The rest of the day proved to be more successful with a max (5:00 min) on my second parachute flight and 2 successful flights in the streamer duration. I finished the day with one model left after 5 flights, with only one flight left on Sunday.

Saturday Night - After a full day of flying, Saturday night brought one of the most impressive things I have ever witnessed - A Night Launch. All I can say is check out the pictures. In addition to the launch and bon fire, the local astronomers club brought out a huge portable telescope and showed everyone the moon and Jupiter. Awesome!

Sunday - The final day of the FAI competition wrapped up with final rounds of steamer duration and RC Gliders. My final streamer flight was successful. Sunday's highlight for me was watching the RC pilots compete with a time limit and specified landing location. They put on quite a show.

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Ray's NARAM 49 Report Continued

Overall, in the parachute duration I finished within the top 50% even with a DQ my first flight and for the streamer duration although I had 3 successful flights, they were not good enough to compete with the veterans.

Sunday Night – NARAM officially started with the competitors meeting outlining the week's events and everyone's range duty. I had the opportunity to do "check-in" all week and as a result was able to see many of the models used and the strategies employed by other competitors.

Monday – Monday's events were A Boost Glider and B Streamer Duration. In the boost glider competition there were many different approaches, from the Deltie to regular gliders. Trip Barber won this event with an impressive 344 seconds. This was almost 100 seconds more than the nearest competitor. As Trip said in his NARCON presentation "practice" it really pays off. I ended up 25th with one DQ for separation. I guess I needed more practice.

In Streamer Duration, piston launchers and very light small weight models seemed to be the key to success. The winner of this produced a second flight of 282 seconds - almost a 5 minute flight. Yes, with a steamer – WOW!

Tuesday – Tuesday's events were C Rocket Glide and A Helicopter. The C rocket glide competition produced even more variety of approaches from backsliders to RC gliders. RC glider was the key to success, producing 771 second duration with the next closest competitor at 426 seconds. I continued my 1 for 2 success rate with an unsafe initial flight and a successful second flight. I ended up with 20th place in rocket glide.

A Helicopter was the second event of the day, with quite a variety of designs. Reliability was the key to success for this event. Only 13 competitors achieved 2 successful flights. Although I felt good about this event, neither of my flights deployed the recovery system, resulting in DQ's. Back to the practice range I go.

Wednesday – Wednesday's events were B Egg Lofting Altitude and Spot Landing. After Tuesday's challenges I was looking forward to some success in these two events. I built two very light rockets for the egg lofting as well as had piston launching finally figured out, or so I thought. I checked out my egg and prepared my rocket to launch. The ground was extremely hard, and debated on what size parachute to use. I finally decided a 12 inch chute would work. My first launch was successful with a height of 55 m, but when compared to the other competitors significantly short. I wasn't satisfied with the piston so I rebuilt it for my second flight. My second flight was more respectable with 85 m, good enough for 9th place. One thing to consider, the highest egg loft I witnessed was 172m "HOLY COW"; however, the egg broke on each of these recoveries.

MASA Planet

Spot Landing was the second event of the day and I broke the MASA tradition of using a "Stomp" rocket. I would have been better off using a Stomp rocket. Instead, I used a tumble recovery rocket on a B engine thinking it would achieve enough altitude, I should have gone with my original plan and a C engine. I didn't land close enough to even check the distance. The wind made this a tough event. The closet of the day was 9m.

Thursday – G SuperRoc Altitude - Thursday was a very interesting day and no one knew what to expect. G super rocket had the largest design variety of any events with the most exciting DQ's – they say a picture is worth a 1,000 words so here a couple 1,000 - check out the pictures. The winning altitude was 794m – WOW!!! I wasn't brave enough to participate in this event so no MASA results.

Thursday Night - Scale judging and RD reports presentations took place on Thursday night.

Friday – C Scale Altitude competition took place on Friday, and although not as entertaining as the G Super Rocket it was still very interesting. The most popular rockets were IQSY Tomahawk and Black Brant. I built Peter Always Zenit – it was fairly simple to build and paint. After the static judging my Zenit was in 8th place; I felt pretty good about this since it was my first scale competition. Fortunately, the wind shifted from blowing over the corn to over the parking area and museum's open field. My launch was a success with a 538m height. My overall finish was 8th.

Friday Night – Just as the entire week, the NARAM banquet was astonishing. There were more trophies given away that night than I had ever seen. The best was MASA's for the outstanding mid-size NAR section. Ted and I accepted the award for the MASA section. Thank you to everyone for their hard work and congratulations.

As I started if you ever have a chance to participate in a NARAM event, don't miss it. NARAM 50 is being held at Manassas, VA, hosted by NARHAMS and NOVAAR. If you ask me it is worth the long drive, and I am planning to attend. If you interested in seeing many more NARAM-49 pictures, check out this website:

<http://www.nerys.com/naramlive/naramlive/index.html> 

Check out some of Ray's NARAM 49 Pictures on the Next Page...



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Ray's NARAM 49 Pictures...



Ray's Zenit Takes 8th Place in C Scale Altitude!



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