



IT WAS OFFICIAL...

The 2012 MASA officers were sworn in at the January meeting and we have already had a change. Gerald has taken a job located in Las Vegas, Nevada and has made the move from Minnesota. So the new Secretary/Treasurer is Jeff Taylor. Congrats Jeff, and good luck Gerald!



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MESSAGE FROM THE NAR PRESIDENT

The Electronic Rocketeer - Issue #44 - February 2012

Greetings!

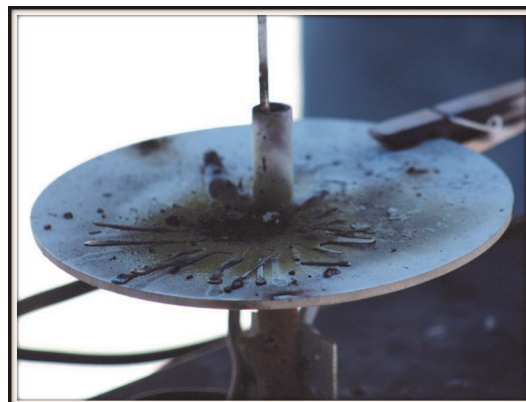
I am delighted to report that the membership of our NAR has now reached the goal that we set in 2008, an active membership of 5200. This is the largest that the NAR has been in the last 12 years; our records from the "boom" days that we went through a few times before then are not complete so we are not sure it is the largest that we have ever been but if it isn't, it's close. Congratulations and thanks to all the thousands of NAR members, the supporting manufacturers, hobby shops, and others who have contributed in some way to the steady growth that has brought us to this point. Word of mouth from satisfied members is our best recruiting tool, and member satisfaction is our best retention tool.

It has been the goal of the NAR Board to do everything in our power to deliver the services that our membership tells us in our biennial online surveys and constant in-person communication to Board members that they want from their NAR. Member satisfaction is our top priority. The larger we become the more services we can afford to deliver. Let's keep growing so we can keep improving our services!

Be safe, have fun, and pay forward.

Trip Barber
NAR 4322
NAR President

Continued on page 2



How did this happen? Check out page 7 to find out...

Message From The NAR President (Continued from page 1)

NAR Board of Trustees Election & Agenda

The NAR Board of Trustees will be holding its next meeting the day before NARCON 2012 (April 13) at the NARCON hotel in Hutchinson Kansas. Members who have items of business that they would like the Board to consider are invited to send these inputs by e-mail to the NAR President by March 9.

Each year three of the nine seats on the NAR Board of Trustees are up for election for three-year terms. This election is held by mail ballot in June and July with final in-person votes at the Association Meeting on the Monday of NARAM, July 30 this year. NAR members who wish to run for election to the one of the three seats on the Board that are up for election in 2012 are invited to submit self-nomination statements of 300 words to the NAR Secretary Dr. Joyce Guzik by April 1. These resumes and the ballot will be sent to every NAR member in the annual paper edition of the Model Rocketeer in May.

NAR Scholarships & Teacher Grants

Each year the NAR shows its support for teachers and students who are active in our hobby by sponsoring cash awards: up to ten \$500 Robert L. Cannon grants to teachers (who do not have to be NAR members) to support their classroom rocketry activities; and up to ten \$1000 NAR Scholarships to students in post-secondary educational institutions who have been NAR members for a year or more. Both grants and scholarships are renewable.

The Cannon grants are funded by the revenue from a benefit auction of rocketry materials held at each NARAM, and the scholarships are funded out of the NAR General Fund (your dues). A committee of NAR leaders, led by NAR Trustee Dr. Joyce Guzik, reviews both grant applications and scholarship applications and announces the awards at NARAM. Applications are due May 1 (scholarships) and June 1 (Cannon grants). Program details can be found on the NAR website.

Please help in spreading the word about the NAR's support for rocketry in schools, and encourage eligible teachers and students to apply.



The MASA Planet is published by members of the Minnesota Amateur Spacemodeller Association (MASA). It is a bi-monthly newsletter dedicated to the continuing education and entertainment of rocketeers throughout the world.

MASA is a large group (over 150 strong) of hobby rocketeers throughout Minnesota and parts of Wisconsin with monthly meetings and launches throughout the year.

Annual dues:

\$12 Family (up to 4)

\$10 Single (18+)

\$6 Single (<18)

Newsletter submissions should be made to the editor Kurt Knox. Email them to kurtknox@gmail.com



Huge thanks to the following newsletter contributors:

Jeff Flansburg, Neal Higgins, Sather Ranthum, Jeff Taylor, & Brian Uhlenkamp

Prepping the January pad at Sunrise Park Middle School. So far the winter months have brought us great launch windows.

2012 MEETING SCHEDULE

DATE	LOCATION	TIME	TOPIC	PRESENTER
April 4, 2012	Hennepin County Brookdale Library	7 to 9	Contest prep review	
May ???, 2012	Alan's House		Fun Night @ Alan's - Kitbash Build	
June 7, 2012	TBD	7 to 9		
July 21, 2012	Otsego VFW		Picnic	
August 2, 2012	TBD	7 to 9	Rocket Locating	
September 6, 2012	TBD	7 to 9	Thinking Outside the Tube	Rick Vatsaas
October 4, 2012	TBD	7 to 9	Rocket Software	Neal Higgins
November 1, 2012	TBD	7 to 9		
December ???, 2012	TBD		Holiday Party	

Be sure to check the MASA website: www.masa-rocketry.org & MASA Yahoo Group: www.groups.yahoo.com/group/masarocketry for the most current information regarding all meetings and launches.

2012 LAUNCH SCHEDULE

DATE	LOCATION	TIME	THEME
March 24, 2012	Otsego VFW	10 to 2	Flyin' of the Green—St. Patricks
April 28, 2012	Nowthen Sod Fields	9 to 4	1/2 A Streamer Duration
May 19, 2012	Nowthen Sod Fields	9 to 4	Multi-Staging / B Parachute Duration
June 2-3, 2012	Nowthen Sod Fields	TBD	Regional Contest
June 16, 2012	Otsego VFW	5 to ???	Solstice Launch
June 23, 2012	Nowthen Sod Fields	9 to 4	Patriotic / Kitbash Kontest & Spot Landing
July 28, 2012	Nowthen Sod Fields	9 to 4	Clusters / Interceptor E Drag Race & A Boost Glide Duration
August 25, 2012	Nowthen Sod Fields	9 to 4	Scale / 14th Annual Great UFO Drag Race, 11th Annual Commanche III Drag Race, 3rd Annual Back-to-School Crayon Drag Race
September 22, 2012	Nowthen Sod Fields	9 to 4	Missiles / D altitude with Alt1, Alt2
October 27, 2012	Nowthen Sod Fields	9 to 4	Oddrocs & Halloween / OktoberFAST G Motor Drag Race
November 17, 2012	Otsego VFW	10 to 3	Christmas / Snowball Fight

Heavy Duty Multi-Use Launch Tower

By Jeff Flansburg

Being new to the hobby, I started out like most of you with a couple of Estes starter sets and while they helped fuel my addiction, they have many short comings. After doing some research on the internet and checking out all of the equipment used at the club launches, I knew that I needed to upgrade from my basic Estes equipment. I also realized that I didn't like or couldn't afford the commercial products available and many of the build plans were just heavy duty versions of a basic starter launch pad. I wanted to get a high quality heavy duty launch tower that would expand as my family and I evolve into bigger and better things in rocketry. As of right now we are having fun with low power stuff and this summer we will be doing mid power. I also have aspirations of getting my level 1 next year and I hate wasting money buying things just to spend more money updating the same thing in the near future. So I wanted to combine the best attributes of the many designs I have seen and see if I could build something myself by adapting relatively inexpensive items.

I knew that I wanted a pad that I didn't have to crawl on the ground to load. I also wanted to be able to change rod sizes quickly. One of the ideas I saw on the internet, was to modify a camera tripod to accept launch rods. I liked the fact that it elevated the pad and it had the ability to change the rod angle, which could be used to adjust for weather conditions. Another design used a drill chuck to secure the launch rod. I liked this because it would accept multiple sizes and could be changed easily. I also think it looks cool. I thought that it would be easy.



I went to garage sales and thrift stores to find a couple of used tripods and scrounged around for some old drills to cannibalize the chuck off of. Right! A drill wasn't hard to find, but I looked all summer and didn't find a single tripod. Not wanting to give up, I started looking around for other options and one day while out in the garage, I saw a work stand that I had bought at work when we had a really good deal on them. It was a heavy duty tripod that also had the ability to adjust the elevation, rotate, and angle. Only this one could hold 150 pounds! Now, all I had to do, is figure out how to adapt the drill chuck and I was in business. I came up with the idea to suspend the chuck under a blast plate that would attach to the top of the stand. I only had one problem; I don't know how to weld. I remembered that we had a family friend that works at a machine shop. I explained what I was hoping to do and made a cardboard template to show him and he said that he would be able to do it at work.



This is what I came up with:

I started with a 12 inch disc of steel, $\frac{1}{4}$ " thick and I figured out where the best place to attach it to the bevel adjusting brackets of the work stand. It had to be offset of center so that the tube used to attach the chuck, would allow enough space for the chuck to work and not interfere with any movement. It also had to be placed so that when a rocket is loaded onto the pad, it is centered on the blast plate. I had a square hole cut out of the plate the same size as the ID of the tube and had the tube welded to that location. For the down tube I used a 1- $\frac{1}{8}$ " square steel tube and calculated that it needed to be 8" long to allow enough clearance to operate the chuck below the bevel brackets. Once it was welded I calculated the location of the mounting holes and drilled them through with a small bit and then followed with the correct size for the 6 mm mounting bolts. After a suggestion from February's meeting, I used a larger bit and counter sunk the tops of the bolt heads to be flush with the surface.



To mount the chuck I used a $\frac{3}{8}$ "x5" eyebolt mounted near the bottom of the tube. The chuck is bolted to the eyebolt using the correct size machine bolt and two large washers. One of the benefits of mounting everything this way is that now I have an easy way to secure a rail. I drilled 2 holes in the tube and had two nuts welded over the holes so that I can use some knobs that I had to tighten down the rail. When I'm using rods, I created a support tower out of 1" perforated tube that is installed the same way. It does two things. It stabilizes the rod from excessive whip and it gives me a rest for the rocket. I took a $\frac{1}{4}$ "x4" eyebolt, two nuts, two washers, and a wing nut to attach it to the tube. I can adjust it up or down as needed. I also took some JB Weld epoxy putty and washers to create bushings that are rod size specific to further center and secure the launch rod. I just slide the correct size bushing onto the launch rod I want to install and slide the rod through the eyebolt, base plate, and into the chuck and secure.



When I was checking over the final setup, I noticed that there was a little too much wiggle in the stand when it was at full extension. To correct this I used a 1" PVC coupler cut in half. I used my band saw to cut and bevel the large ribs running through the center of the coupler to allow it to fit the bottom of the stand. It was a little tight, but a few gentle persuasions from a rubber mallet worked just fine, problem solved. I had one final addition. I had a $\frac{1}{4}$ " quick link welded to the bottom of the blast plate to secure the launch controller wire and hang the unused rod bushings for convenience.

Most people would stop there, but I had to personalize it with paint. I used Rustoleum Hammered Black for a thick durable coat on the underside of the blast plate. The top and rod bushings got a coat of Rustoleum High Heat Black and all of the painted tool stand parts were repainted with Rustoleum Painters Touch Deep Blue. Now all I need is a controller to light off my growing fleet.



By Brian Uhlenkamp
NAR 39505 SR

Three Times a Charm?

So, being a BAR, I just couldn't resist purchasing the Estes Mega Mosquito kit. One of my first kits was the original Mosquito and like many others, my Mosquito only saw one flight, it took off and was never seen again, even though it was painted bright orange. When I first heard of the new Mega Mosquito, I knew I had to have it. After waiting for it to finally be available for purchase, I got it and I liked the bright yellow paint shown on the package. Since the kit comes with the original Mosquito as well as the Mega, I thought maybe the bright yellow would help me not lose it in flight.

As I started building the two rockets, I started looking for that right yellow color. I normally use Rust-Oleum Painters Touch Ultra Cover 2X, however as I was at the hardware store, I thought, what better way to keep that Mosquito visible than Fluorescent Yellow, so I picked up a can. I don't recall using fluorescents before but I did read that your primer must be very consistent and you must have very even coats to get a consistent finish and color. I got a nice primer coat and then proceeded with the fluorescent yellow. After two mist coats, I went for the final coat, but I had terrible results, darker in some areas, nice in others, and obviously this wasn't what I was looking for. Call it strike one. So, I sanded it down, re-primed it and then proceeded with my Ultra Cover 2X Sun Yellow. I got a nice finish, but after looking at it several times over a couple days, I just couldn't convince myself that it was the correct color. It just wasn't bright enough. Call it strike two. I then sanded that down, and went back to the hardware store and found the Rust-Oleum Professional Safety Yellow as it appeared to be what I was looking for. I gave it a shot and finally-that was the color! I couldn't be happier with it. I never expected to have to give three different yellow coats, but I guess three times a charm! Another lesson learned. I finished with the black accent fin and then the decals. I then gave it a clear coat.

Upon completion of adding the recovery, I did my final weight of the Mega Mosquito. It weighed in at 7.7 oz. vs. the packaging of 5.2 oz, so 2.5 oz. more. Not surprising. I did upgrade the kit to a Kevlar and elastic shock cord system vs. the rubber cord. I also upgraded to a thin mill nylon parachute and a Nomex chute protector. It appears about half the extra weight is due to the upgrades, the other half from the extra paint. So, I verified the CG/CP in the RockSim file and performed simulations. All looks good, except it will fly at a lower max altitude than advertised due to the extra weight, but I'm ok with that. I am now ready for warm weather to fly both of them. I just hope the Safety Yellow helps me not lose the regular Mosquito. If anyone plans on building the Mega Mosquito and want the "right yellow", take it from me, use Rust-Oleum Professional Safety Yellow and you will only need to give it one coat.



REMINDER

Get your 2012 MASA dues in to Jeff Taylor now! The summer launch season is around the corner and I know you want to be a member so you can really launch the big boys. Same great price as last year also, so don't delay...

Come Fly With Us... MASA
www.masa-rocketry.org

2012 MASA Membership Application Form

Name: _____
 Address: _____
 Phone Number: _____
 Email: _____

Payment Information:
 I am enclosing \$10.00 in cash.
 I am enclosing my check for \$10.00.
 I am enclosing my credit card information.
 I am enclosing my money order for \$10.00.

Application on Page 9

WORKBENCH

Another Take on the Triton Multi Stand

By Neal Higgins

After I saw Jeff's initial pad he built and brought to the January launch I knew I had to build 1 or 2 (maybe 3) of my own. Jeff was kind enough to pick up 2 of them and get them to me at the February meeting. I started construction right away since I already had 2 head assembly's already done and just waiting for legs. I made the heads by bolting a 1" pipe flange to the stainless steel blast deflector and screwing on the 1" black pipe. I also had to drill a 1" dia hole in the stainless for rod insertion. Along the pipe I drilled to 5/16 holes and welded on a 1/4" nut at each location. These are where the hand/thumb screws go for holding in the launch rods. Once this was done I just had to weld the pipe to the stand. I still have some clean up and painting to complete to make them look nice and prevent rust. The heads were modeled after the one that is on my PVC pad that has been used at MASA launches for a couple of years. The new pads will be able to handle any size rod up to 1/2" and 1" rails if the rail uses a holder that will fit inside the 1" pipe. All of the rails I carry use 1/2" stainless rod bolted to the rail for a holder.

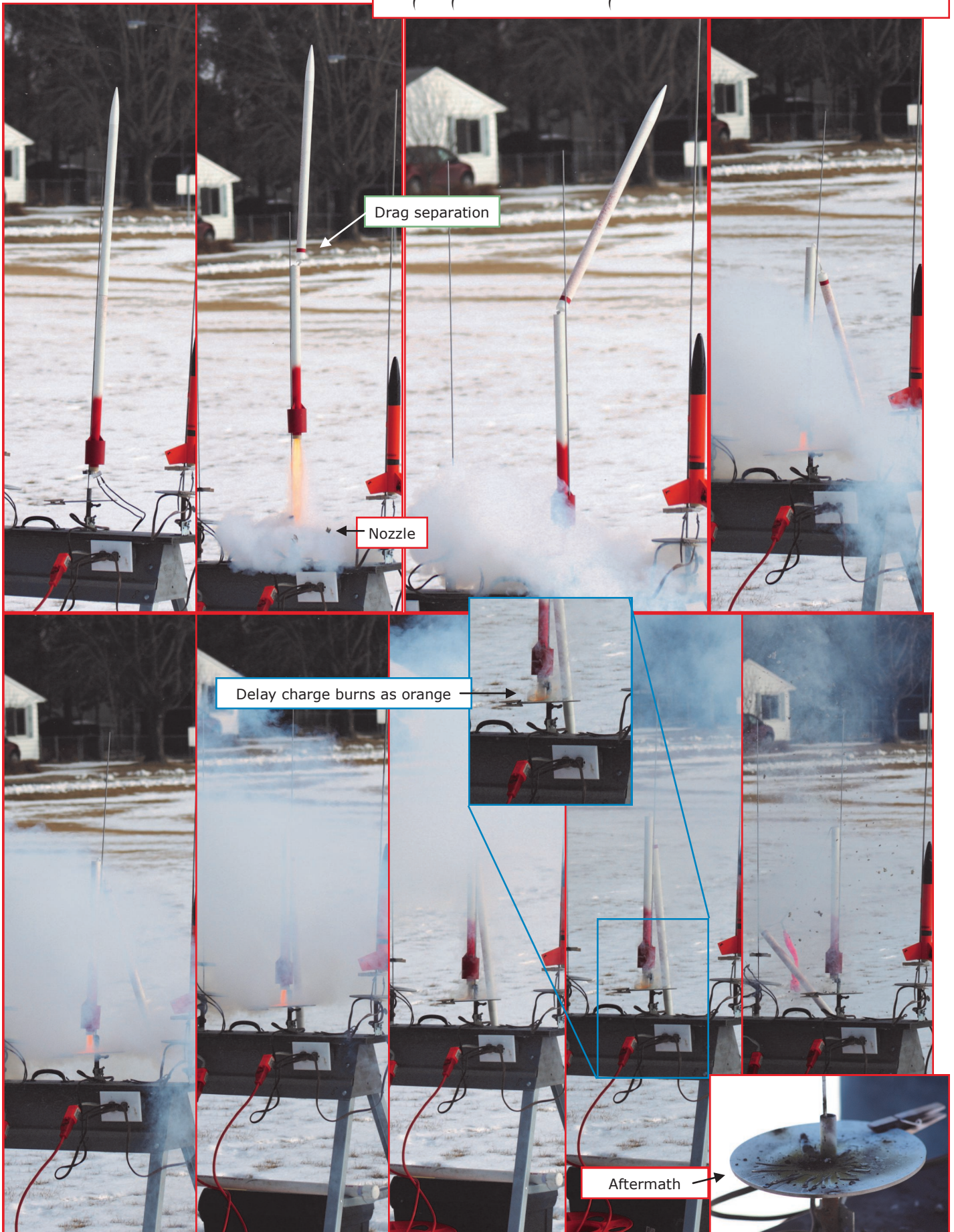
The 3rd tool stand I ended up buying will be made more heavy duty and will be capable of holding the 1 1/2" rail for larger rockets. I hope to debut it by the May or June launch. The main difference will be is that I will use 2" square thick wall steel tubing instead of the pipe. I will also add longer legs or maybe just add weights to the feet.



CURRENT MASA MEMBERSHIP - 92 MEMBERS

Ross	Bartels	Gregg	Harcus	David	Miller		
Wesley	Bartels	Jack	Harcus	Evie	Miller		
Alex	Brown	Meghan	Harcus	Bob	Moyle		
Luke	Brown	Mike	Harcus	Lance	Murphy		
Thomas	Brown	William	Harcus	Michael	Murphy		
Allison	Carpenter	Neal	Higgins	Scott	Murphy		
Elliot	Carpenter	Alissa	Hoyme	Jason	Pokorny		
Laura	Carpenter	Julie	Hoyme	Chuck	Ross		
Todd	Carpenter	Ken	Hoyme	Ian	Ross		
Ted	Cochran	Kirsten	Hoyme	Audra	Rudys		
Jason	Colt	William	Inboden Jr	Cathy	Schwartz		
Eleanor	Craig	Kenneth	Jarosch	Joy	Schwartz		
Heather	Craig	Abby	Juntunen	Larry	Schwartz		
Lindsay	Craig	Andy	Juntunen	Ryan	Schwartz		
Oliver	Craig	Dani	Juntunen	Dwayne	Shmel		
Ben	Ericksen	Karen	Juntunen	Elizabeth	Shmel	Natalie	Uhlenkamp
Alan	Estenson	Abbie	Kartsten	Richard	Shmel	Cheryl	Vatsaas
Michael	Farrell	Kathie	Kartsten	Susan	Shmel	Christian	Vatsaas
Chris	Feld	Patrick	Kartsten	Brianna	Tamez	Ingrid	Vatsaas
Jeff	Flansburg	Peightyn	Kartsten	Maria	Tamez	Rick	Vatsaas
Ryan	Foss	Kurt	Knox	Alyssa	Taylor	Anand	Vyas
David	Gensler	Lucas	Knox	Jeff	Taylor	Aimee	Whitaker
Art	Gibbens	Adrian	Larson	McKenna	Taylor	Austin	Whitaker
Hannah	Gibbens	Stuart	Lenz	Brian	Uhlenkamp	Cynthia	Whitaker
Philip	Gibbens	Carol	Marple	Julia	Uhlenkamp	David	Whitaker
Renée	Gibbens	Buzz	McDermott	Lukas	Uhlenkamp	Ron	Wirth
						Rohn	Blake
						Nic	Rosenau
						Seamus	Rosenau-Blake

ANATOMY OF A NOZZLE EJECTION



Six Profiles in Rhyme

a humorous look at our hobby,
adapted from the poetry of Walt Bartlett

by Sather Ranum, WOOSH, NAR
Section 558

The Nit Picker

The picker of nits
gives a rocketeer fits.
"You've built it all wrong," he will
sigh.

"Why, the fin on one side
is three microns too wide,
and the nose cone four-hundredths
too high!"

He'll then beg your pardon,
if he came down too hard on
the features of rockets he's rated;
but his judgement is fair,
exact, plumb, and square.
His eyeballs have been calibrated.

The Kitbasher

The Basher of Kits
will bash kits to bits
in order to build something better.
With no planning or care
he'll put the parts where
he must clamp and glue them together.

He sands, files, and reams,
spot putties the seams,
and finally gets what he's after.
His rockets unique;
when he gives friends a peek,
they struggle to choke back the
laughter.

The Organizer

This man is a joiner. He's somewhat
compulsive.

Life without meetings to him seems
repulsive.

Among rocketeers there's none
whose heart's bigger.

He gets folks together, and serves
them with vigor.

But he's no time for rockets, I
learned from a chat,
but a study group's forming to check
into that.

His time's at a premium, and more is
the pity;

he chairs the "Take Time for your
Hobby" committee.

The Collector

Three stage boosted gliders,
scale rockets and fighters,
and all of them locked in a case.
Though his rockets can fly,
There is no reason why,
He'd rather they sat in one place.

It should be a sin,
there's a motor within,
for there is no reason to try them.
I suggest in this verse
that his rockets disperse,
and be given to those who will fly
them.

The Contestant

With fevered brow and anxious touch
his nimble fingers dance,
embossing tiny rivets so
this rocket has a chance.

He won last year, the year before
he knocked down "Best in Show."
All model rocket contests seem
to feed his grand ego.

His entry always looks superb,
details all in place,
too bad his models seldom have
a thing to do with space.

The Devotee

He cares deeply for his wife,
whom he's loved all his life,
and he spends time with her, now
and then,
but his thoughts run nonstop,
building things in his shop,
and lining them up in his den.

The model rocket buff
can never get enough
of things that make his sport louder.
Big rockets are cool,
with their White Lightning fuel,
and canisters full of black powder.

He's a model-making elf,
and cannot keep himself
from building these things all night
long.
He gives friends a thrill,
they admire his skill,
but always call "Heads Up!" at Bong.

Sather Ranum is a member of the Wisconsin Organization of Spacemodeling Hobbyists. He allowed me to share this entertaining piece of poetry he wrote and published in the Jan-March WOOSH POP newsletter. Be sure to check out their website for more information and entertaining tidbits... www.wooshrocketry.org

Come Fly With Us....

Club Launches
Club Meetings
Newsletter
Sport Rocketry
High Power Rocketry
Outreach Events



NAR Section 576

MASA

Since 1998

Minnesota Amateur Spacemodeler Association

www.masa-rocketry.org



MASA (Minnesota Amateur Spacemodeler Association) is an active rocketry club with members from the Twin Cities and surrounding areas of Minnesota and western Wisconsin. MASA is dedicated to the safe and enjoyable pursuit of the rocketry hobby.

MASA has an official club launch on the 4th Saturday of each month, year round, at one of several different flying sites. We also hold monthly club meetings. Visitors, spectators, and prospective members are always welcome to join us at club events!

MASA welcomes rocketeers of all ages and experience levels. You do not need to belong to the NAR (National Association of Rocketry) in order to join MASA. However, we do encourage you to consider NAR membership. (Find out more about the NAR at www.nar.org)

You can find more information on the MASA web site, or email us at masarocketry@rocketmail.com

What are the benefits of MASA membership?

- Our web site - www.masa-rocketry.org
- Six issues per year of the award-winning "MASA Planet" newsletter
- Monthly club meetings and launches
- Support, assistance, and other rocket advice
- Club membership card/name badge. (Present it at participating local hobby stores for a special 10%-off club discount!)
- Section #576 of the National Association of Rocketry
- Contests, special events, building sessions, tours, summer picnic, winter holiday party, and lots more!

What are the responsibilities of membership?

- That you attend and support club activities to the fullest extent possible
- That you will always follow the model rocketry safety code
- That you will work to make MASA a better club, a better experience, and a better resource for your fellow members
- That you positively promote the hobby and act as a good rocketry ambassador to your community

2012 MASA Membership Application Form

(Please print clearly)

Or register on-line with PayPal at www.masa-rocketry.org

Check one: New Member (Welcome!) Renewal

Name: _____
 First Last

Address: _____
 Street Apt

City State Zip

Phone Number: _____

Other Phone Number: _____

E-mail Address: _____

Please select your appropriate membership level:

- Check one: **Senior** (18 or older) Dues: **\$10.00** per year
 Junior (17 or younger) Dues: **\$5.00** per year
 Family (maximum of 4 people) Dues: **\$12.00** per year.

Please list names (and NAR numbers if applicable) of up to three additional immediate family members:

1. _____
2. _____
3. _____

For Official Use Only:

Payment Received _____ Cash ___ Check ___ PayPal ___ Other

MASA Planet Newsletter Delivery Method:

- Check one: I'll download PDF from web site: **FREE**
 Regular U.S. Mail. Please add **\$6.00**
(printing and postage) per year to your dues

Rocketry Interests (Check any that may apply):

- Low Power Rocketry (up to E engines)
 Mid Power Rocketry (F and G engines)
 High Power Rocketry (H engines and up)
 Rocketry Competitions
 General Interest Community Outreach Events
 Other: _____

NAR Member Number (if applicable): _____

NAR HPR Certification (if applicable): *Expires:* _____

Check one: Level 1 Level 2 Level 3

Tripoli Member Number (if applicable): _____

Tripoli HPR Certification (if applicable): *Expires:* _____

Check one: Level 1 Level 2 Level 3

MASA membership runs on a calendar-year basis.
Dues for continuing members are payable each January.

Please mail this form along with a check for your dues to the MASA Secretary/Treasurer:

Jeff Taylor
9240 University Ave NW #209
Coon Rapids, MN 55448

Please make check payable to "MASA"
Or register on-line with PayPal at www.masa-rocketry.org.

MASA PLANET
C/O KURT KNOX
7795 FIRESIDE ROAD
WACONIA, MN 55387



Apply address label here.

NARCON
 **2012 Hutchinson, Kansas**
April 13th, 14th, & 15th, 2012
ODYSSEY

On behalf of KCAR and KOSMO, I want to invite everyone to come to Hutchinson, Kansas for NARCON 2012 on April 13th, 14th, and 15th. If you want to know what's so special about Hutchinson, Kansas for rocket nuts, all I need to say is the Cosmosphere. We have secured rights to get all participants into the Cosmosphere free of charge. Tickets usually run \$10 a head.

Now what's so amazing about this place? Its an extension of the Smithsonian, and outside of Washington, it's the only museum to house capsules from 3 major space programs that have actually been in space: The Liberty Bell 7, Gemini X, and from Apollo 13 fame, the Odyssey command module. They also have an SR-71 Blackbird and one of the few remaining original V2s in the world, along with a Vostok from Russia. In fact, they have the largest Russian space related artifact collection outside of Moscow.

We are also working on getting permission to go see their "Space Works", a private tour of their back lot, things they haven't or won't put out on display, including a Thor-Aegina and a Lunar Lander. We will be having a website up very soon, but in the meantime, if you'd like to see more about the Cosmosphere please check out this link: <http://www.cosmo.org/>

Blake Goddard
President of KCAR 505
Director of NARCON 2012