

MASA PLANET

OFFICIAL NEWSLETTER OF THE
MINNESOTA AMATEUR SPACEMODELER ASSOCIATION



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Upcoming Events:

- **Meeting:**
Thursday, February 7, 2013,
7:00–8:45
- **Launch:**
Saturday, February 23, 2013,
10:00–2:00.

See page 9 for more details



January/February 2013

Volume 16, Issue 01

NAR Section #576

Established 1998

Welcome to the New *MASA Planet*

Welcome to the latest issue and latest edition of the *MASA Planet*!

I am excited to be the latest editor and I hope to carry on the tradition of giving you a quality newsletter.

I am relying on you, the members, to give the exciting articles and pictures for each issue. Please consider contributing an article and pictures for any product review, book review, or kit building experience that you would like to share.

This new format is likely to change along the way, as I discover new ways to make this newsletter more eye catching and interesting.

I hope you will consider contributing to future issues. I do intend to publish this bi-monthly, as we have had in the past. Next issue will be the March/April issue.

Thanks,

Andy Heren,

MASA member since 2002

Renew your MASA Membership now

If you have not done so yet, please renew your MASA membership today (I know a certain newsletter editor who needs to renew his!)

The members voted to raise the membership dues from last year to help with club costs and to provide a port-a-potty at launch sites.

Visit our website at www.masa-rocketry.org to renew your membership. You can print and mail in the form or pay your dues via PayPal.

“If our minds can conceive it, the possibility exists that we can do it.”

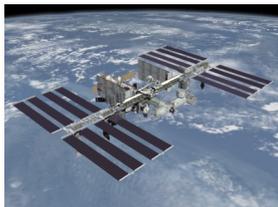
—Buzz Aldrin, Gemini and Apollo Astronaut and Second Man on the Moon

From his book *Magnificent Desolation: The Long Journey Home From the Moon*



Meet Your MASA President, Neal Higgins

Where were you born? Litchfield, MN
Where did you grow up? Litchfield, MN
What city do you live in? Maple Grove, MN
How old are you? 53
What was your favorite subject in school? Industrial Arts
What do you do for a living? Physical Design Engineer
What did you want to be when you grew up? Architect
What do you want to be when you grow up? I don't want to grow up.
Are you married or not married? Married
Do you have kids? No kids.
Do you have any brothers and sisters? 4 brothers and 1 sister
Have you ever served in the military? Nope
What was your first job? Cook (if you don't count all of the chores growing up on a farm)
Have you ever been to another country? Canada & Mexico
How many different US states have you been to? 27 and counting
What is your dream vacation? Machu Picchu or Iceland
Do you collect anything (coins, stamps, etc)? Wood for my many uncompleted projects
What is your favorite TV show? Family Guy
What is your favorite movie? Rubber
Who is your favorite musical artist? Big Bad Voodoo Daddy
What book are you currently reading? Land of Painted Caves
Who are your favorite cartoon characters? Stewie and Brian
What is your favorite restaurant? Carlitos Mexican (Litchfield)
What is your favorite spectator sport? Football
What historical person would you like to meet? Frank Lloyd Wright
What are your favorite rec activities? Frisbee golf & walking the dogs
Do you have any pets? 2 dogs and a cat
What is your biggest pet peeve? Bad drivers
Who is your favorite superhero? Underdog
If you had the opportunity to travel in space, would you do it? Absolutely
Do you have other hobbies besides rockets? Woodworking
How long have you been involved in rocketry? On & off since 1966
How did you get started in rocketry? My oldest brother gave me a kit.
What is your favorite rocket and why? Currently it is my Polecat 5.5" Goblin.
Are you a NAR and/or Tripoli member? NAR and Tripoli
How many rockets do you own? 102 flying, 16 in the works.
How many rockets have you lost? 15 lost, 52 damaged and used for parts on other rockets
What is the biggest advantage to you of being a member of MASA? The flying field and camaraderie.
Have you ever been to a NAR National Event? No yet.
What is the next rocket you plan to build or buy? Estes Blackstar Voyager
What rocket is at the top of your wish list? Madcow Ultimate Frenzy (L3 project)



International Space Station

Interested in seeing the International Space Station flying through the sky? (I wanted to make that specific so you didn't think I was offering trips up there.)
Go to <http://spaceflight.nasa.gov/realdata/sightings/> to find times and dates for our location.

From Your MASA Vice President, Jeff Taylor

Welcome to 2013, and the new changes that MASA is going through. The 2013 club leadership team consists of Neal Higgins returning as President, Chris Feld as the new Secretary/Treasurer, and myself as the new Vice President. Alan Estenson remains as the web master and keeper of MASA stats. Also new for 2013 is the return of the MASA Planet, with long-time MASA member Andy Heren as the new editor. Thank you to Neal, Chris, Alan and Andy for their contributions to the club. If you have ideas on how to make the club better, let us know and we will work with you to see what we can do.

In 2012 we had just over 150 members in the club, and I hope that our 2013 roster is just as long. If you make it to a launch or a meeting, stop by and introduce yourself, as I would like to meet as many MASA members as possible.

To give you a little background on myself, I grew up in Reno, NV, currently reside in Coon Rapids, and I am an engineer at ATK in Plymouth. I remember flying rockets as a kid probably sometime around the Nixon administration – back when we ignited motors with a fuse and a match. I got back into rocketry sometime around 2004 after helping out with the Minneapolis school district's newly-formed STEM program "Rocket League". I joined MASA around 2005 and quickly learned that rocketry technology had progressed tremendously since I was a kid. People were throwing out acronyms like NSL, AP, RSO and TARC, and using words like reload, dual deploy, Semroc and RockSim. What? I had a lot to learn, and was glad to see that MASA members are always more than willing to answer questions and offer guidance. I have learned a ton from the club members and still have volumes yet to learn.

Since joining MASA, I received my level 1 high power certification in 2007, attended two NARCONs, two NARAMs and one NSL, and was the MASA Planet newsletter editor for a few years. I have also made numerous friends and acquaintances, and like I said before, learned a lot about rocketry.

I also have two daughters who are club members. Alyssa, my oldest, got her high power certification a few years ago, and McKenna, my youngest, has a high power rocket under construction and may try to get her junior cert this summer.

Fly safe!

Meet Your MASA Secretary/Treasurer, Chris Feld

Name: Christopher David Levorson Feld- It's been screwing up paperwork for me since day 1

Age: 24

Birthday: April 5th- On that day in 1242, Russian forces led by Alexander Nevsky defeated the Teutonic knights by luring them onto thin ice.

Marital status: Single

Education: BS in Business Administration from UW River Falls

Occupation: Millwright

Employer: Lovegreen Industrial Services

Favorite real life rockets: Military Missiles in general, rocket artillery in particular, esp. WWII Soviet examples

Interests in hobby rocketry: HPR, rear ejection, electronic payloads

Other interests: History, cooking, electronics, travel

Favorite food: Burgers

Favorite Beer: Porter, Oatmeal Stout

Random useless skill: I can sing 99 bottles of beer on the wall in base 16.

Airbrush Practice Project—A Stickerless Flaming FatBoy

By Jeff Taylor

When I got back into rocketry in 2005, one of the first rockets I built was a FatBoy. For years it flew around in a red, white and blue paint scheme (Photo 1) and it took the usual abuse from multiple flights. It was time to give it an overhaul.

The original rubber band shock cord was replaced with Kevlar, the paint was removed, and the nicks and dings in the fins were filled and sanded. I wanted to go with the stock FatBoy paint scheme with some added flames, but I was afraid that painting flames over the FatBoy sticker on the body tube wouldn't work out well. My solution was to use paint instead of stickers.



Photo 1

I started out by spraying a color fade of Fluorescent Orange and Fluorescent Magenta using Createx Colors acrylic airbrush paint (Photo 2). The next step was to spray Iridescent Electric Blue on one side of each fin (Photo 3). This would serve as the color for the "F", "A" and "T" on the fins. I cut out the masks for the "F", "A" and "T" on the fins using frisket film (Photo 4) and applied the masks over the blue. I also masked off the body tube to keep overspray off the fluorescent flame colors. To get the lighter blue on the fins I mixed some Opaque White with the Iridescent Electric Blue and sprayed the rest of the fins. After removing the "F", "A" and "T" masks, the fins look like they had stickers on them (Photo 5).



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6

I made the flame masks by cutting three masks out from frisket film and applied them to the body. I also masked off the fins, and sprayed Jacquard Metallic White on the body tube between the "F" and "A" fins for the coloring of the "FatBoy" sticker (Photo 6).

My next step was to cut out "FatBoy" masks using frisket film again (Photo 7), and placed these masks over the Metallic White on the body tube. Then I sprayed the rest of the body tube with Jacquard Metallic Red (Photo 8).

After removing all the masks it was evident that the color difference between the Fluorescent Magenta flames and the Metallic Red body tube wasn't enough to really make the flames pop (Photo 9), so I outlined the flames using a blue Sharpie paint pen (Photo 10).



Photo 7

(Continued, p. 5)

Views from a BAR

By Brian Uhlenkamp
NAR 39505 SR

Decals, Decals, Decals

Back in the late 1980's after several years of building kits, I started doing some scratch building of my own designs. Parts were available like the Estes Designer's Special and I got individual parts from Estes and North Coast Rocketry for my scratch builds at the time. There are obviously more options for getting parts for your scratch building today, including custom parts, but the biggest problem back in the day I had was getting decals to finish off my models. You could come up with a great design, and even come up with a good paint scheme, but you always needed those decals to give it that detail you wanted. One thing I did was look for kits that had some good decals in them, purchase the kits, and use the decals on my scratch builds. I can recall purchasing several of the same kits, one time I recall purchasing two Mercury Redstone kits, just to use the "United States" decals. One thing when you did this, was you also had extra body tubes, motor mounts, nose cones, etc. to use on your scratch builds. I guess it was a kitbash in a way. I'm sure many others did the same back then.

These days you have several different options. One option is to purchase your own decal making kit with waterslide decal paper to using on your ink jet printer. I have the Testors Decal Maker. There is also the option of purchasing waterslide decals from several vendors such as Sirius Rocketry, Excelsior Rocketry, Tango Papa, and others. Another option now is using vinyl decals, several vendors are using them in their kits, such as LOC Precision and Madcow Rocketry. The one method is you can get custom made vinyl decals at a local decal shop, a Cricit (designed for scrapbooking), or a shop like Stickershock23.com, which is where I've gotten quite a few of my custom decals. In the end, you have many options these days for decals on your scratch builds, but even today don't rule out kitbashing to obtain decals and/or using paint schemes to customize your scratch build designs.

(Continued from p. 4)

Mistakes are abundant on this project: I smudged the red paint on the body tube when I was removing the flame masks, and I had never used a Sharpie paint pen before so the blue line has smudges, wiggles, and is inconsistent in width. In hindsight I maybe should have outlined the flames with paint (which would have been a real pain to mask) or to use thin pin striping tape (which would have been a real pain to make all those curves). But hey - that's why MASA has the 15 foot rule, right?



Photo 8



Photo 9



Photo 10

Scratch-Built Crayon Builds

By Brian Uhlenkamp
NAR 39505 SR

I built two "Crayon" rockets last winter, mainly for our kids, but I must admit it was my idea. For some reason I always wanted to build some Crayon rockets and the kids were all for it, so that was all the motivation I needed. At the time, nobody had a crayon kit, (I see Estes has now come up with some Crayon rocket kits, and FlisKits has some micros) and I had seen some folks build HPR Crayon rockets out of the "Crayon Bank" you find at ToysRUs®, but I wanted something smaller for the kids to launch.

I wanted something large enough but not too small, D-size motor capable. I took an actual crayon from a box and a calipers (yes, the engineer in my got out) to measure and run a few different scale scenarios to help me decide on a good size. I ended up liking the looks and size of a 2 inch diameter. My first challenge was getting a nose cone, but that was easily and quickly solved by e-mailing SEMROC for a custom balsa nose cone (now SEMROC part #BC-2034CR). My design was based around a SEMROC ST-20 body tube. I made a Rock-Sim file to scale and determined the ST-20 size was ideal for a D motor to get an altitude around 550 feet, which is what I was going for so the flight events could easily be seen.

My goal was to minimize fin size and appearance, to try and make it look like a true flying crayon. I had previously worked with clear polycarbonate (Lexan®) for fins (see MASA Planet Vol. 14, Issue 6 for details) on a cloned Estes Challenger II, as a prototype to use clear fins for the Crayon, so that's what I did. I wanted to follow the general rules of chord and span to 1.5x tube diameter, but I decreased the span to 1.375x and the chord to 1x and only using 3 fins to minimize the appearance of fins. I decided to aim for a stability margin of 2 since I was using smaller than normal fin sizes. To get the stability and going thru SEMROC part availability and keeping the Crayon to scale, I decided to make a top payload section. Adding a balsa coupler for the payload bulkhead helped move the CG forward. I figured the payload section was a good spot to add any nose weight if needed after the build. I also used an ejection baffle to keep all the recovery laundry forward as well.

The build was fairly straight forward, wood & white glue were used everywhere, except I used CA & epoxy on the polycarbonate TTW fins.

In the end, all parts (except the fin material, parachute and decals) were ordered from SEMROC. Parts list as follows:

BC-2034CR Crayon Nose Cone
ST-2030 3" payload body tube
BTC-20 Balsa Tube Coupler (payload bulkhead)
ST-20180 18" body tube
EB-20 Eject Baffle
ST-9180 Motor Mount Tube
TR-9 Motor Thrust Block
CR-9-20 Centering Rings
EC-248 Elastic Shock Cord
Sck-24 Kevlar Shock Cord Mount
LL-423 ¼" Launch Lug
PAR-18TM 18" Parachute Thin Mil (Top Flight Recovery)

(continued on page 7)

FCP-6x6 Nomex® Chute Protector (Top Flight Recovery)
 1/16" thick polycarbonate (McMaster Carr)
 Vinyl Decals (StickerShock)

Once complete, I did the final RockSim, which after weighing and finding the CG, were almost exactly per the original design file, so no adjustments were needed. With a D12 motor, the stability margin is at 2. With the slightly smaller fins, I was very comfortable with that. The crayon rockets both weighed in at 6.375 oz.

I finished them both with Rustoleum's Painters Touch Ultra Cover 2X. One rocket for Lukas in "Sun Yellow" and Julia's in "Candy Pink". Custom crayon vinyl decals including the crayon color of "Lukas Yellow" and "Julia Princess Pink" were installed. Two coats of Future Shine were then applied.

We have launched the crayon rockets several times each, every time on Estes D12-3s. We have mostly done a "crayon drag race" twice since both were built identical. They are fun, especially as a drag race and our family truly enjoys launching them.



Pictures From Past Launches (Is One of Them Yours?)



And we have liftoff!



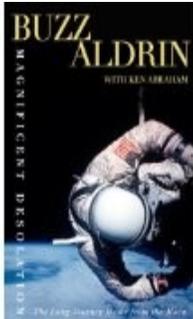
OUCH!!



And we have liftoff!



Rocketry is so much more fun
 with kids!



Book Review – *Magnificent Desolation: The Long Journey Home From the Moon* by Buzz Aldrin (2009)

By Andy Heren

(My apologies if this has already been reviewed in the past)

I get tired of listening to the radio in the car and occasionally find a good book on CD, particularly biographies. I especially do this when traveling long distances, but also in town. I had seen Buzz Aldrin's biography, *Magnificent Desolation: The Long Journey Home From the Moon*, on the shelf at the library, and I recently grabbed it.

The book starts with the journey to the moon, their time there, and the return. The rest of the book he focuses his personal life. He shares with the reader his ups and downs in dealing with depression and alcoholism. He shows that these diseases can afflict anyone, even heroes who walk on the moon. He took a chance back in the 70s and 80s sharing this. The fact that these two afflictions are diseases and not weaknesses was not widely accepted. In this day and age we know that they are real diseases and can affect anyone, regardless of background or profession.

Also through this book you can see his ideal and devotion to the idea of getting more people in space and making space travel more commonplace.

If you have the time to sit down and read it, or have a trip coming up in which you could listen to it, I would strongly suggest it as a good read/listen.

News from HUB Hobby, Little Canada

The latest "Rocket News from HUB L.C." from our own Rocket Guy, Alan Estenson:
(As of January 26, 2013):

Hub Hobby Center, Little Canada

New rocket stuff in stock:

Estes Planet Purple rtf crayon rocket
Estes Outer-space Orange rtf crayon rocket
Estes AGM-57X Heatseeker kit,
<http://www.estesrockets.com/new/002158-agm-57x-heatseekertm>
Estes Rogue Voyager kit,
<http://www.estesrockets.com/new/007223-rogue-voyagertm>

Semroc Der V-1.5 kit
Semroc Nike-Tomahawk kit
Semroc MX-774 kit

FlisKits Mercury Redstone kit
FlisKits Celtic Thunder kit

All Top Flight Recovery products have been restocked.
The FlisKits ejection baffle kits are all back in stock.

Remember to pick up a 2013 Estes catalog when you're next in the store.

Also now in stock is the new Estes Hunter's Choice launch set. This is the first set to include their new Astron II pad & controller (all other current sets come with the Porta-Pad II and Electron Beam controller). This new controller has a LED and uses a 9 volt battery. The pad is interesting in that the three legs twist-lock into the central hub and then rotate into position so that they rest on each other. Gone is the old wing-nut angle adjustment. Also gone is the ability to hold a 3/16" rod.
:-(

As always, show your current MASA membership card at the cash register for a 10%-off club discount on most items.

Estes has discontinued the following kits:
1250 Interceptor (many left) - CLEARANCE PRICED
1262 Cosmic Cobra (gone)
1301 Stormcaster (5 left)
1350 Interceptor-E (gone)
1382 Comanche-3 (many left)
1398 Sky Loftter (~5 left) - CLEARANCE PRICED
2050 Super Neon (4 left)
2181 Chrome Dome (many left)
3203 Equinox (? left) - CLEARANCE PRICED
3207 Cross Bow (? left) - CLEARANCE PRICED

Alan
Hub L.C. Rocket Guy
--
alan.estenson@gmail.com

MASA Directory

Established 1998

Founding President: Russ Durkee

2013 President

Neal Higgins—nthiggins@gmail.com

2013 Vice President

Jeff Taylor— jeff.taylor@mn-rocketry.net

2013 Secretary/Treasurer

Chris Feld — christopher.feld@my.uwrf.edu

MASA Planet Newsletter Editor

Andy Heren—planet.editor576@gmail.com

MASA Planet Online

www.masa-rockeetry.org/planetonline.htm

Club Website

www.masa-rockeetry.org

Webmaster

Alan Estenson — estenson@mn-rocketry.net

Club Yahoo Group

<http://groups.yahoo.com/group/masarocketry>

MASA Calendar

Meeting

Date: Thursday, February 7, 2013

Time: 7:00 – 8:45 P.M.

Place: Hennepin Country Brookdale Library, 6125 Shingle Creek Parkway, Brooklyn Center 55430
Meeting Room A & B

Topic: The Nike Ajax and Nike Hercules Missiles, and their history in Minnesota, by Alan Estenson

Launch

Date: Saturday, February 23, 2013

Time: 10:00 A.M. – 2:00 P.M.

Place: New site! McMurray Field, located at Lexington and Como in St. Paul. For the GPS lovers, Google map coordinates 44.975751, -93.1524 (Thanks for the tip, Michael Ferrell!)

Theme: “Don’t fly white rockets in the snow!”

For more detailed information, please go to the MASA website at

www.masa-rockeetry.org

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C/O ANDY HEREN
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EAU CLAIRE, WI 54701



Mailing Label Heren

MASA

Minnesota Amateur Spacemodeler Association, founded in 1998, 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 is a registered section (Section #576) of the National Association of Rocketry (NAR). MASA has been recognized by the NAR as "Medium-Sized Section of the Year" in 2006 and 2007, has received the NAR's North American Rockwell Trophy for best newsletter in 2008, 2009 and 2010, and has hosted NARCON (the NAR's Annual National Convention) in 2007 and 2008. MASA has an official club launch on the 4th Saturday of each month (weather dependent) year round at one of several different flying sites located in Nowthen, White Bear Lake and Otsego. We also hold monthly club meetings on the 1st Thursday of each month, typically held at the Science Museum of Minnesota in St. Paul. We host a Club Picnic in July and a Holiday Party at the end of the year. MASA also participates in numerous rocketry-related outreach activities including Cub Scouts, Girl Scouts, schools, 4H, TARC and USLI to name a few. Visitors, spectators, and prospective members are always welcome to join us at club events! MASA welcomes rocketeers of all ages and experience levels. MASA members share their building and flying experience to help you hone your skills and become a better and safer rocketeer. Flying in a club environment keeps you in touch with the latest rocketry techniques and products, as well as offers encouragement and support through camaraderie of fellow club members. 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, www.masa-rocketry.org, or email us at masarocketry@rocketmail.com.

For more information, or to join MASA ,go to www.masa-rocketry.org



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