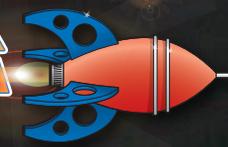


MASA PLANET



The Official Newsletter of the
Minnesota Amateur Spacemodeler Association

Established January 1998

2006 and 2007 NAR Medium Section of the Year

Host of NARCON 2007 and NARCON 2008

2008, 2009 and 2010 LAC Newsletter Award Recipient

May - June 2011
Volume 14, Issue 3



NAR Section 576

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DVD Review

"The Red Stuff"

By **Todd Schweim**

Remember "The Right Stuff?" It is the American version of getting into the space race.

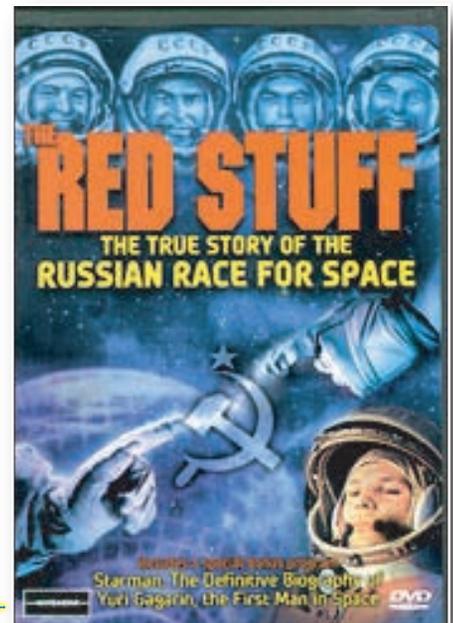
Half a world away in the Soviet Union, our nemesis lead the way. "The Red Stuff" is that story. The Red Stuff is a film about the first heroes of the cosmos from those early years of Russian space travel. Who were the people behind these first successes?

Much of this DVD is interviews with the Russians first cosmonauts. Pavel Popovich, Andrian Nikolayev, Boris Volynov, Gherman Titov are just a few of the many interviews contained on this DVD. I found these interviews to be fascinating; they take the viewer through astronaut selection and training, family life at Star City, and many other aspects of cosmonautics. Keep in mind that this is the cold war, the tension and competitiveness were typical of that era.

If you are a space buff, there is also a large amount of rare Soviet space footage that I had never seen before. There is footage of the very first Vostok. There is also footage of the pad fire that killed 74 Russians with the explosion of an R16 on the pad.

Also contained on the DVD is the movie "Starman", the definitive story of Yuri Gagarin. It features rare footage and interviews with family, friends and former colleagues.

The Red Stuff and many other obscure space science movies can be found at International Histori Films, www.ihffilm.com



MASA Directory

Established January 1998

Founding President: Russ Durkee

2011 President

Carol Marple - masarocketry@rocketmail.com

2011 Vice President

Neal Higgins - nthiggins@gmail.com

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MASA Planet On-Line

www.masa-rocketry.org/planetonline.htm

Club Website

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Webmaster

Alan Estenson - estenson@mn-rocketry.net

Club Yahoo Group

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



Todd

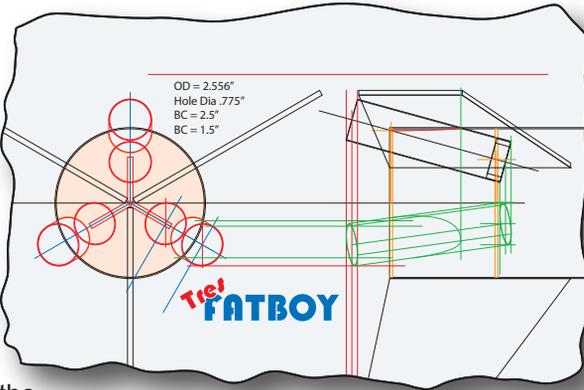


Scratch and Bash "Tres Fat Boy"

By Jeff Taylor

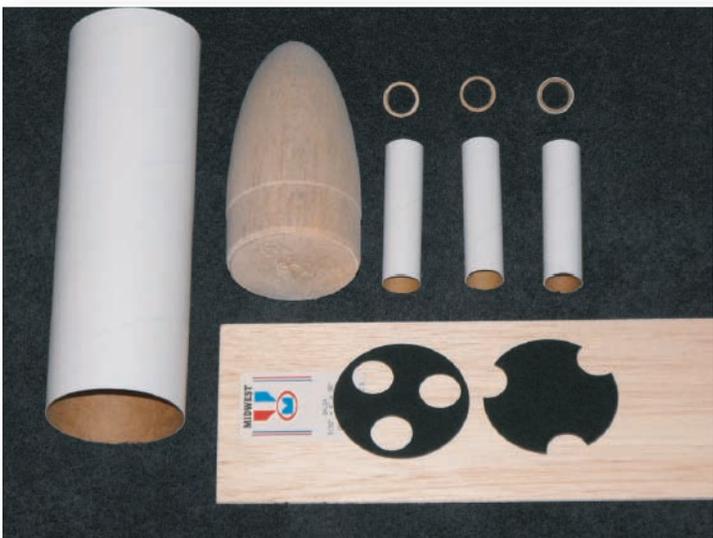
Tony Vincent, a CMASS member out of Haverhill, MA, has been influencing some of my recent rocket work with his magnificent designs. One of his recent creations that he calls "Trifid" (see www.rocketryforum.com/showthread.php?t=16208) is a scratch design that he based on the unique triple-canted cluster motor mount from a FlisKits Tres. That project inspired me to come up with a rocket that was also had the Tres mount, but I really wanted to do try it with a FatBoy. Unfortunately the Tres Body Tube is 1.637" diameter whereas a FatBoy Body Tube is 2.6" diameter, which meant that I couldn't use a Tres motor mount. No problem – I would just make my own.

I started out with a layout of how the motors would sit inside the Body Tube so I could get an idea of what I would need to come up with for Centering Rings. Using the 15 degree cant angle of the Tres, I positioned the motors in the drawing so that they would stick out about 3/4" from the aft end. That gave me the needed dimensions for the Centering Rings with that the aft Ring being flush with the end of the Body Tube.



I ordered the following parts for this project from Semroc and BMS:

- One 2.6" Diameter Body Tube 8" Long
(Semroc PN BT-80WH) \$2.20
- One 2.6" Balsa Nose Cone
(Semroc #BNC-80BB) \$11.45
- Three Motor Mounts
(Semroc #EM-78) \$2.20 ea
- Two custom-cut Centering Rings
(BMS custom order) \$1.00 ea



I had some 3/32" balsa sheet for the Fins, a 3/16" Launch Lug and some Kevlar Shock Cord lying around to complete the assembly.

MOTOR MOUNT

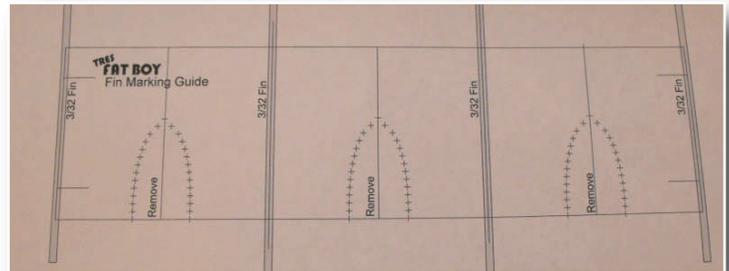
The heart of this project is the triple canted Motor Mount which sets it apart from a stock FatBoy. I cut some balsa angled pieces to provide the core support structure for the Motor Tubes between the Centering Rings. These support pieces set the Centering Rings apart at the right



distance and gave the Motor Tubes a solid structure to be mounted to. Using yellow carpenter's glue, I glued the three balsa supports to the Centering Rings then added the Motor Tubes and Thrust Rings. I tied a length of Kevlar around one of the Motor Tubes just behind the forward Centering Ring and threaded it up in front of the Centering Ring. With the glue still wet I made sure that the three Motor Tubes were aligned properly and set it aside overnight to let it dry.

BODY TUBE

If you've ever built a FlisKits Tres or Deuces Wild, you will know that these kits come with a cutting guide so you can cut oblong slots in the back end of the Body Tube where the Motor Tubes extend beyond the Body Tube OD. Using my layout and some old-school drafting skills, I translated the points to make my own cutting guide and fin marking guide to work with the 2.6" Body Tube.



After cutting the three oblong slots I test fit the Motor Mount to make sure it fit properly, making additional minor cuts or sanding to get a perfect fit with the aft Centering Ring flush with the back of the Body Tube.

ASSEMBLY

After the Motor Mount was dry and the three slots in the Body Tube were complete, I just slid the Motor Mount into the Body Tube and glued it in place. I cut the Fins from the Balsa sheet

Continued on the Next Page....



Tres Fat Boy Concluded

and surface-mounted them to the Body Tube between the exposed Motor Mounts. I used glue to build up some strong Fin fillets, and adding the Launch Lug completed the assembly. Since it will have two more motors than a stock FatBoy I had to add some nose weight to adjust the CG to match a stock FatBoy. This got me thinking that it would be much easier to add weight to a plastic Nose than to a balsa Nose, so I decided to replace the balsa Nose with a plastic Estes Nose Cone that I picked up at Hub Hobby (thank you for stocking them, Alan!).

FINISHING

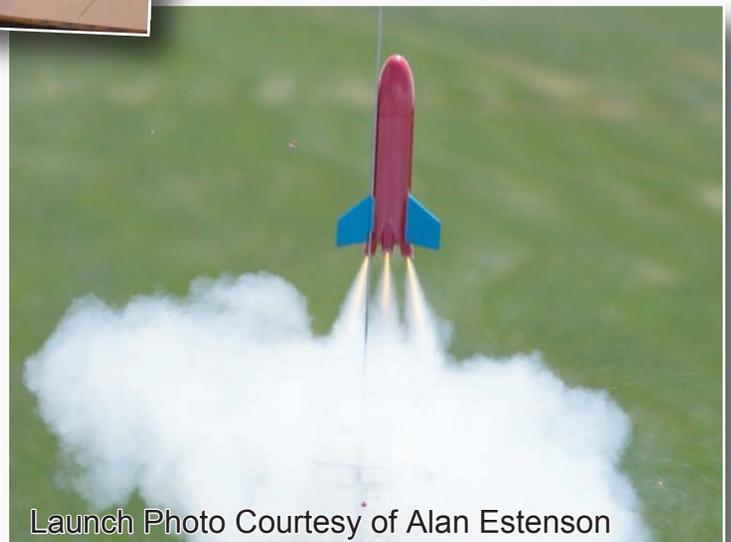
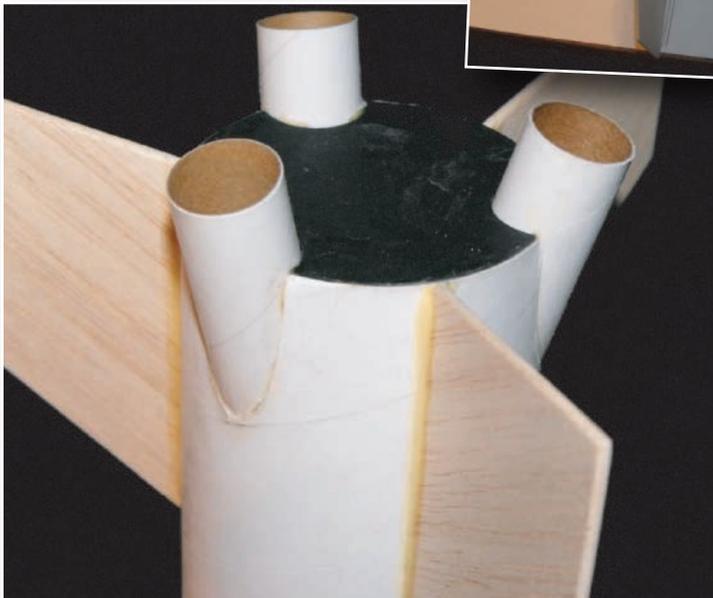
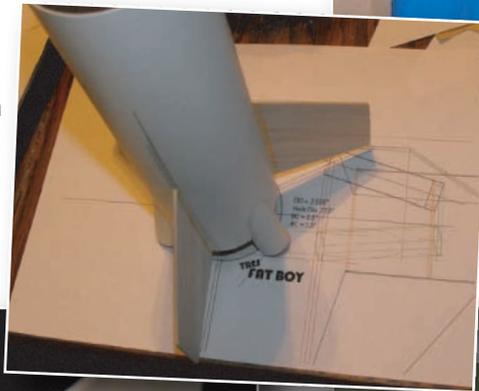
I used a mixture of Elmer's Wood Filler and water to fill the balsa grain in the Fins, the spirals in the Body Tube, and to build up some smooth fillets along the Fins and Motor Tubes. I sprayed the entire rocket with Rustoleum 2X Coverage White Primer and gave it a good sanding once the primer dried.

PAINT/DECALS

I sprayed the Fins with Createx Pearlized Blue and the Body and Nose with Createx Pearlized Red airbrush paint. I used the stock stickers from an old FatBoy kit that I had, however the "F" in FatBoy was right over one of the Motor Tubes and a complex curve that was difficult to place a flat sticker on. Even with making some minor cuts in the sticker it never did lay down right, but it's only a rocket, right? After all that it got a coat of Rustoleum 2X Coverage Clear Gloss.

FLIGHT

I flew this at the May 7 MASA launch on 3 C6-5's for a flawless flight. However, since it is critical that all 3 motors light, I consider this a high-risk rocket and will probably only fly it on rare occasions. Still, it was very fun to build.... 



Launch Photo Courtesy of Alan Estenson

The Who's Who of MASA



ART GIBBENS

Name: Art Gibbens
 Nickname: Curly (from his short hair while playing football at Bethel)
 Born in: Jamestown, NY Grew up in: East Coast (Navy Brat)
 Currently Resides in: Cottage Grove, MN since 1992
 Favorite Subject in High School: Science Classes
 Current Occupation: Keeping 300 computers up and running at Bailey Nurseries, Inc.
 Occupation Desired as a Child: Professional Football Player
 Marital Status: Married Children: 3 Brothers & Sisters: 3
 Other Countries Visited: Canada, Mexico, The Netherlands, Sierra Leone and West Africa
 US States Visited: 45
 Dream Vacation: Touring the US in his 1962 Ford Falcon
 Favorite TV Show: M*A*S*H
 Favorite Movie: Stand by Me
 Favorite Musical Artists: The David Crowder Band
 Currently Reading: The Five Dysfunctions of a Team by Patrick Lencioni
 Favorite Cartoon Character: Rocket J. Squirrel - seriously
 Favorite Restaurant: Wendy's and Red Lobster
 Favorite Spectator Sports: Stock car racing
 Sports Played: NCAA Division 3 football at Bethel University
 Four Words Describing Art: Integrity, resourceful, loyal, logical
 Historical Person Art Would Like to Meet: Werner Van Braun
 Favorite Recreational Activities: Rocketry and Camping
 Pets: Caspian the cat
 Human's Most Significant Invention, Endeavor or Accomplishment: The wheel, then forging metal.
 Something Very Few People Know About Art: He doesn't like rhubarb.
 Favorite Superhero: The Incredibles
 Would Travel into Space if the Opportunity Arose: In a heartbeat
 Other Hobbies Besides Rockets: Working on old cars
 Involved in Rocketry Since: Since 1972, in the eighth grade
 Got Started in Rocketry From: A fellow eighth grader did a presentation in English class about them.
 Favorite Rockets: Saturn V – because with it we were able to land on the moon
 Currently a Member of: NAR Senior, L1 Certified
 Current Fleet Size: Probably close to 30, with only two that won't fly again for sentimental reasons. A Big Bertha I built in 1972 and a ready-to-fly, mini-engined X-15 plastic model, both setting on my dresser.
 Fleet Size Sacrificed to the Rocket Gods: At least 50, and probably closer to 100
 Biggest Advantage to Being a Member of MASA: Great flying venues!
 Has Attended These NAR National Events: TARC Finals three times with the HCA Rocket Club
 Most Challenging Build so far: SR-71 Boost Glider
 Next Rocket to Build: Several, including an old Estes Aerobee
 Rocket Wish List: Astron Sprite

2011 MASA Members

Registrations Received as of April 30

Cheryl Anderson	Alan Estenson	Bob Moyle
Hunter Anderson	Espen Fredrick	Lance Murphy
Kevin Anderson	Kris Fredrick	Mike Murphy
Levi Anderson	Kristina Fredrick	Scott Murphy
Corey Bedford	Owen Fredrick	Justin Nelson
Glenn Bedford	David Gensler	Mark Nelson
Kevin Bedford	Art Gibbens	Jason Pokorny
Lilia Bedford	Hannah Gibbens	Nic Rosenau
Rohn Blake	Mathias Gibbens	Seamus Rosenau Blake
Caleb Boe	Philip Gibbens	Audra Rudys
Daniel Boe	Renee Gibbens	Todd Schweim
Don Boe	Andy Heren	Dwayne Shmel
Joshua Boe	Neal Higgins	Elizabeth Shmel
Caylin Bowman	Alissa Hoyme	Richard Shmel
Cindy Bowman	Julie Hoyme	Susan Shmel
Craig Bowman	Ken Hoyme	Gene Stoneman
David Bright	Kirsten Hoyme	Bryan Sullivan
Sara Bright	William Inboden, Jr.	Brianna Tamez
Alex Brown	Abby King	Maria Tamez
Luke Brown	Eric King	Alyssa Taylor
Thomas Brown	Ray King	Jeff Taylor
Andrew Carlson	Sharon King	McKenna Taylor
Allison Carpenter	Edward LaCroix	Mark Thell
Elliot Carpenter	Ellison Lenz	Brian Uhlenkamp
Laura Carpenter	Sarah Lenz	Julia Uhlenkamp
Todd Carpenter	Stuart Lenz	Lukas Uhlenkamp
Kevin Cochran	Carol Marple	Natalie Uhlenkamp
Seth Cochran	Buzz McDermott	Cheryl Vatsaas
Ted Cochran	Bruce McLeod	Christian Vatsaas
Jason Colt	Lyle Merdan	Ingrid Vatsaas
Ben Ericksen	Gerald Meux Jr	Rick Vatsaas
Ethan Erpelding	David Miller	Joseph Wright
Mike Erpelding		David Wurmfeld

Roster information provided by
 MASA Secretary/Treasurer Gerald Meux Jr.

98 Members to Date!

New NAR Section MASA Welcomes WWAR

MASA members Todd Schweim, Kevin Anderson and Craig Bowman have created WWAR (Western Wisconsin Association of Rocketry), a new NAR section operating at the Grantsburg, WI airport, with one of the summer launches at the Chateau St. Croix Winery.

Launch dates for 2011 are on the following Sundays: May 29, July 3, August 7, September 4, and October 2.

Everyone is welcome to come fly with WWAR. Details on power classes/waivers will be made available later, but the current plan is to limit rockets to 3.3 pounds. For more info contact Todd at winterwood@grantsburgtelcom.net



Get It Together What's In Your Shop?

By Todd Schweim

Face it, building rockets is an obsession. Call it a man cave, workshop, hobby area, whatever; it is a place that we spend a huge number of hours in doing what we love, building rockets. There is no such thing as too much time in, "the shop." Be honest, if we could turn the living room into the rocket room if the powers that be approved. This is an article about making our work space a little more comfortable and livable. We might as well enjoy the time we can spend in "the shop." This is an article for and about your shop, not your modeling. The following is just a litany of tips and tricks that I have found make my modeling faster, easier and better.



Storage:

Storage is probably the most difficult problems we encounter. There is a lot of stuff associated with rocketry, and it all needs a home. Usually, putting a kit in storage means never seeing it again. Honestly, can you remember where that 1980s Der Red Max kit is?

Several years ago, my shop was converting to the gray totes with yellow lids. These totes cost \$15.00 each and have interlocking tops so that one tote can easily next on top of another. They are strong and durable, and have been stacked 6 high at times. These storage totes will constantly be stacked and restocked, they will take a beating. Purchased the best quality totes available. The totes measure 24" deep, 16" wide, 12" tall and are the perfect size for kits. Remember, totes that are very large and can really handle a lot of stuff are not the best choice for kits. Most kits are in plastic bags, if too many are stacked within a tote, the bottom tubes and components are going to get crushed.

The next consideration is to find a place for the storage system. If you have the room, try to commit an entire wall or a portion thereof to the project. Since the totes stack, it will be really nice to use some of the vertical space in the shop. The more vertical you can go, the more space that will be saved for something else. Make sure to label all the totes. All it takes is some removable masking tape and a marker. Nothing is

**THERE IS NO REASON
TO NOT BE ABLE TO
FIND YOUR STUFF!**

MASA PLANET

more aggravating than not being able to find what you are looking for. Wal Mart and Menards also sell nice label makers for about \$20.00 These label makers have adjustable fonts and type sizes. They work great and really help with the organization. There is no reason to not be able to find your stuff!

Bins, trays and cabinets:

Another great way to organize are small, plastic trays. These trays are available at most dollar stores. These trays work great for keeping your drawers and workbench orderly.



Fishing tackle trays also work very well. They are a semi-transparent white and come in 100's of sizes and shapes. It is handy to be able to see into the box before opening it. When purchasing, make sure to get the brands that have separate hinges. These will last longer than the style that has the hinge molded as part of the tray top. These trays can work for everything from individual computer components to reload casings. There is no end to what can be stored in them.

Don't forget to take a look at fishing tackle boxes. It is usually a cheaper way to purchase the trays and will allow more storage. These tackle boxes have quickly gotten labels in my shop. One box for rocket electronics, Arduino components, spray paint/paint booth supplies, etc.

Another great tote is the Stanley 26 compartment organizer for motors. These totes can not be beat for 1/4A – D rockets motors. 13Mm motors will stack nicely in a slot and 18-24mm motors will stand on end. A pile of motors will fit in one of these boxes.

Take a look at the steel professional boxes also. These boxes are available at the local Menards. These metal framed boxes are completely open inside. This allows bulky items like reload casings, launch tools or recover wading to find a home. Usually, these boxes come with a lid organizer that is very handy. In the reload casings box, I can keep a listing of recommended motors for my rockets and an Aerotech reorder sheet.

Continued on the Next Page...



What's In Your Shop? Continued

These kinds of cases and boxes really make going to the range easier. Reload kits, check; reload casings, check, rocket electronics, check.

The workbench(es):

Think of all the hours that are spent in front of the workbench. Most of us started with a folding table and a lamp. After time, the hobby quickly starts to fill up a spare bedroom or basement. Maybe its time to start thinking of that space as a living space. Its important to think about conditions like access to supplies, lighting, fresh air, an outside window, etc.



My workbench is rather odd, but it works well. It is built from four solid wood oak doors. The doors were thrown out by a contractor during a remodeling project. I say them sticking out of a dumpster and inquired. Moments later, I was heading down the road with my new prize. The doors had the handle hole cut in them, I simply cut this part of the door off on a table saw. The four doors were Elmers wood glued together with about a 1/3 gallon of glue, cinder blocks were placed on top. The next day, I had a work surface that is 6 inches thick and solid wood. If I had it to do over again, I would have made two work surfaces out of the doors instead of one. It simply doesn't need to be as sturdy as I made it.



Another work surface to consider is the standard kitchen cupboard system. Instead of purchasing a counter top, simply screw 1/2" plywood to the top. When the surface has been marred with years of abuse, sand smooth or replace.

There are a couple of reasons I like a wood surface. First, when clean, it looks great. Most importantly, it is sandable.

Once every few years, I can take everything off of the table and hit it with a belt sander to bring the table back to a flat surface. Every drop of glue that doesn't hit the cutting mats will land on the table. When building a table, make sure to have a way to bring the table back to a clean, flat surface.

Cutting Mats/Protective Surfaces:

Cutting mats are a really great work surface. Lately, I've been using the least expensive cutting mats and changing them out when they wear out. They are easy to clean with hot, soapy water. Don't try alcohol or paint cleaners cleaners on the mats. The high quality Fiskars mats it will make them warp and pucker from the cleaners.

The cheap, Wal Mart mats go on the construction table. The nice, Fiscars mat is on a separate table that is only used for cutting balsa sheets. The sanding and gluing are for the \$6.00 Wal Mart mat. Keep a piece of 1/4" x 12 x 12" pine board handy near all of your cutting mats. Use the board for a sanding platform. No sense sanding the lines off the cutting mats.



The mats work great for construction but are a pretty hard surface for a finished model. I've been using tool box flooring as a surface to lay finished models on. This stuff is used to line tool boxes, it is a 1/8" foam material that won't harm the paint on a finished model.

Lighting:

Lighting should be the a big concern, but usually isn't. When working with models, it is hard to get the light where I want it with overhead light so I choose 3 goose neck lights. The lights are completely adjustable and the system was worked well.

Shelving:

The system of shelves is simply 1 x 8's that have been cut to fit. Make sure to screw the entire shelving unit to the table base. After time, the shelving unit will accommodate a great amount of weight. Any moving of the table could tip over the shelving unit if it is not securely attached.

The dollar stores carry plenty of the cheap, little plastic trays. These are great for organizing your stuff for the shelves. If proper care is taken, the vertical supports for the shelves can be adjusted to fit a certain number of these plastic trays.

Tool storage:

Over time, we acquire a huge amount of tools for our hobby. Getting the tools organized so we can find what we want ,when we want it, is the trick. A great solution is a mechanics tool cart. These tool carts are available at most hardware



Continued on the Next Page...

What's In Your Shop? Concluded

stores and even Sears carries them. Look for a cart with wheels. The wheels make it easy to push out of the way when not in use. Also make sure that the cart has plenty of narrow drawers. I can never have too many of the narrow drawers. The deeper drawers tend to get cluttered with too much stuff.

Balsa storage:

Simple and easy. Try the USPS triangle boxes. These boxes are stackable and provide nice, flat storage so that your balsa will stay out of harms way. The boxes can be labeled with the different thicknesses of stock. Since they are cardboard boxes, they also breath and that makes balsa happy.



Handy Tools:

One of the least favorite jobs on any modeling project is the sanding. That is why I have a lot of tools for it. Nothing is worse than spending an evening with a piece of sandpaper and a model. Here are a few of the tools that have made sanding a quick, simple job.

Organize the sandpaper. No, this is not going over the top. Target and Wal Mart sell hanging file folders and a small plastic box to put them in. Simply organize the hanging folders for the sandpaper. There will not be an excuse for running out of a certain grit of sandpaper with this system. Since all the paper goes in the box, it is easy to stow away when not in use.



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Power sanding is the way to go. Why use elbow grease when electricity will do? There are two types of sanders that see a lot of power in my shop. The first is a Bosch flat sander. It takes Velcro triangular sanding pads that are quick and easy to change. It gets used on all types of fin stock and centering ring material.

My second go to sander is a Porter Cable Contour sander. This is a great sander for fillets and fins. The sander comes with 9 contour sanding heads as well as a handy carry case. Simply wrap the sandpaper around the head and attach to the sander. Concave attachments work great for rounding over the edges of fins. Convex attachments work great for sanding fillets. It will take only minutes to produce a high quality, uniform fillet. This sander is now out of production, but it is easy to get one on ebay.

Flat sanders come in array of shapes and sizes, I like the Great Planes Hand Sander series. These sanders are contoured to fit your hand and are comfortable to use. These sanders come in a variety of sizes. However, it is easy to purchase the large sanders and cut them down. Its a good idea to purchase or make three of the required size with varying grits attached to each.

When it comes to sanding small and tiny spaces, try the sanding sticks made by Excel. These are spring loaded sanding files that measure 1/4" wide by 6.5" long. The sanding belt can be rotated along the file when fresh sandpaper is needed. These tools are excellent to get into tiny cracks and crevasses. The sanding stick belts come in grits 80 - 600.

Todd 

**Contributors to this issue of
the MASA Planet... Thank You!**

 **Alan Estenson**  **Todd Schweim**
 **Art Gibbens**  **Jeff Taylor**
 **Gerald Meux Jr**

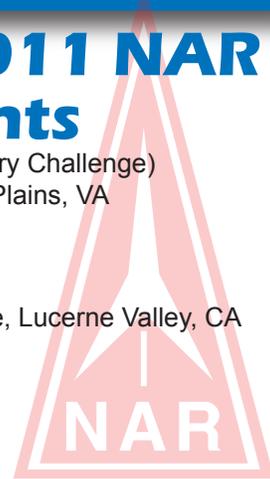
To contribute pictures, stories, build reviews, or just about anything, email to jeff.taylor@mn-rocketry.net

Remaining 2011 NAR National Events

TARC Finals (Team America Rocketry Challenge)
May 14, 2011 - Great Meadow, The Plains, VA
www.nar.org/TAchallenge.html

NSL (National Sport Launch)
June 10-12, 2011 - Lucerne Dry Lake, Lucerne Valley, CA
www.nsl2011.org

NARAM-53 (NAR Annual Meet)
July 23-29, 2011 - Lebanon, OH
www.naram53.quarkers.net/



2011 Meeting Schedule

Subject to Change

Check MASA Website or Yahoo Group for updates

MASA May Meeting

Friday, May 13 - 6:00 pm to 10:00 pm

Location: Alan Estenson's House

7006 Ives Lane N, Maple Grove

Topic: Sputnik/Snowball Build Session and Arcade Party

MASA June Meeting

Thursday, June 2 - 7:00 pm to 9:00 pm

Location: Science Museum of Minnesota - St Paul

Topic: TBD

MASA July Meeting (i.e., Summer Picnic)

Saturday, July 16

Time: TBD

Location: TBD

MASA August Meeting

Thursday, August 4 - 7:00 pm to 9:00 pm

Location: Science Museum of Minnesota - St Paul

Topic: TBD

2011 Launch Windows

Subject to Change

Check MASA Website or Yahoo Group for updates

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

MASA May Launch

Saturday, May 21 (one week earlier than usual due to Memorial Day) - 9:00 am to 4:00 pm

Location: Nowthen

3rd Annual MASA Summer Regional Contest

Saturday and Sunday, June 4 and 5 Time: TBD

Location: Nowthen

MASA Summer Solstice Evening Launch

Saturday, June 18 - 5:00 pm to 9:00 pm

Location: Elk River VFW

MASA June Launch

Saturday, June 25 - 9:00 am to 4:00 pm

Location: Nowthen

MASA July Launch

Saturday, July 23 - 9:00 am to 4:00 pm

Location: Nowthen

Scheduled dates, times and launch sites are subject to change due to weather and/or field conditions. Check the MASA Web Site or MASA Yahoo Group for up-to-date changes.

ADDRESS SERVICE REQUESTED

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Coon Rapids, MN 55448

