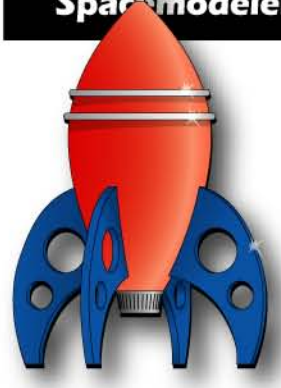
2006 NAR Medium Section of the Year
2007 NAR Medium Section of the Year

MASA Planet

Minnesota Amateur Spacemodeler Association

Volume 11, Issue 3
May - June 2008



Minnesota Rocketry Network
mn-rocketry.net

MASA
Established January 1998
NAR Section 576

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Thanks to all MASA members who built and donated rockets for the NARAM-50 Fly It/Take It Program!

FAT BOY MANIA at the MASA Launch in May

Fat Boy Mania Duration Contest

Contest Director: Buzz McDermott. We will have a "just-for-fun" C Fat Boy duration contest. We'll be using the 2.0 Stock Fat Boy Duration rules below with one change: you may fly either once or twice. Your score will be your best time, not the total time if you make two flights. We'll have separate divisions for youth and adults.

2.0 Stock "Fat Boy" Duration Contest Rules:

1. The model shall have the same length, diameter, fin shape and number, and therefore overall appearance as a stock "Fat Boy".
2. The model shall use the same nose cone as supplied by Estes in the "Fat Boy" kit. Modifications may be made that do not alter the shape of the nose cone forward of the shoulder, beyond what would be incurred through normal finishing (sanding, priming, and/or painting.)
3. The model shall use commercial body tubing; no vellum, fiberglass, or other material(s) may be substituted for the airframe.
4. Fin material is of the competitor's choice.
5. There are no restrictions on internal modifications to the model.
6. Recovery system shall be at least one parachute of a size and material of the competitor's choice.
7. Propulsion shall be a "C" black powder motor (e.g. C6-3, C6-5) of any certified manufacture.
8. Models shall be launched from a launch rod; no towers, pistons, or rails permitted. Launch lug diameter is of the competitor's choice. "Pop Lugs" are permitted.

Fat Boy Mania Beauty Contest

Contest Director: Andy Heren. This "just-for-fun" static contest is your chance to show off your Fat Boy in all its glory. All of the Fat Boys entered in the Beauty Contest will be on display at the launch for the hour prior to the duration contest. All members present will get to vote on their favorite. Your Fat Boy does NOT need to be able to fly, and it does not need to be entered in the Duration Contest to be in the Beauty Contest.

Come and have some fun - **FAT BOY** Style!

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NAR Model Rocket Safety Code Reminder

Code #9 - LAUNCH SITE

I will launch my rocket outdoors, in an open area at least as large as shown in the accompanying table, and in safe weather conditions with wind speeds no greater than 20 miles per hour.

I will ensure that there is no dry grass close to the launch pad, and that the launch site does not present risk of grass fires.

SAFETY FIRST

SAFETY ALWAYS

Motor Type	Minimum Size (ft)
1/4A, 1/2A	50
A	100
B	200
C	400
D	500
E	1,000
F	1,000
G	1,000
Two Gs	1,500

Connect to MASA On-Line

Did you know that MASA has its own on-line Yahoo Group? This is where you can find out the latest news and chatter about club launches, projects, and other club activities. If you are a current MASA member, you are eligible to join the on-line MASA Yahoo Group. Check it out today and see all that you have been missing at http://groups.yahoo.com/group/masarocketry/

To join the MASA Yahoo Group, just send a blank email to masarocketry-subscribe@yahoogroups.com, and upon approval, you can join in.

What's the Word on Wadding?

MASA does NOT allow the use of any "tissue paper" type wadding at any club launches. This includes the wadding that comes with all Estes and Quest engines. So what are we supposed to use? MASA provides wadding commonly called "dog barf" at all club launches. Dog barf is free to all flyers. Look for it in a white bucket near the flight card table. Leave your tissue paper wadding at home.

NARTS

National Association of Rocketry Technical Services

- **NAR Gear:**
  - **Shirts/Caps**
  - **Mugs**
  - **Decals**
  - **Pins/Patches**
- **Technical Data**
- **Rocket Plans**
- **Informative Books**
- **Scale Data**
- **Contest Information**

Check it out today at www.nar.org/NARTS/index.html

2008 Launch Windows (May - August)

Subject to Change - Check MASA Website for updates

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

National Sport Launch (NSL)
www.nsl2008.org
May 24 - May 26
Orangeburg, South Carolina

NAR NATIONAL EVENT

MASA May Launch *
Saturday, May 31 (one week later than normal)
9:00 am to 4:00 pm
Location: Nowthen
Theme: Fat Boy Mania - See Page 1

MASA Summer Solstice Evening Launch
Saturday, June 21 - 4:00 pm to 9:00 pm
Location: Elk River VFW

MASA June Launch *
Saturday, June 28 - 9:00 am to 4:00 pm
Location: Nowthen
Themes: Boost Gliders

MASA Summer Picnic Golden Scout Launch!
Saturday, July 19 - 2:00 pm to 8:00 pm
Location: Elk River VFW

MASA July Launch *
Saturday, July 26 - 9:00 am to 4:00 pm
Location: Nowthen
Themes: Clusters

NARAM 50
www.narhams.org/naram50/
July 26 - August 1
The Plains, Virginia

NAR NATIONAL EVENT

MASA August Launch *
Saturday, August 23 - 9:00 am to 4:00 pm
Location: Nowthen
Themes: Multi-staging
Events: Annual UFO and Comanche-3 Drag Races

* FAA waiver approved to 5500' MSL (about 4500' AGL)

Where are the MASA launch sites?

See www.masa-rocketry.org for details and directions

Nowthen
Fricke Sod Farm
Southwest corner of Tiger St NW and 211th Ave NW - Nowthen

Elk River - Rogers VFW 5518
VFW Memorial Sports Complex
7350 Quaday Ave - Elk River

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2008 Meeting Schedule (June - November)

Subject to Change - Check MASA Website for updates

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

MASA June Meeting
Thursday, June 5 - 7:00 pm to 9:00 pm
Topic: Kitbash

MASA July Meeting
See Summer Picnic in the 2008 Launch Window

MASA August Meeting
Thursday, August 7 - 7:00 pm to 9:00 pm
Topic: NARAM 50 in review

MASA September Meeting
Thursday, September 4 - 7:00 pm to 9:00 pm
LOCATION FOR SEPTEMBER MEETING IS TBD

MASA October Meeting
Thursday, October 2 - 7:00 pm to 9:00 pm
Topic: TBD

MASA November Meeting
Thursday, November 6 - 7:00 pm to 9:00 pm
Topic: 2009 MASA Officer nominations

Remember to check out
www.masa-rocketry.org
for the latest Launch Dates, Meeting Dates and other Important News

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.

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Tech Report

Baffles - Part 2

Spirit of America 2008, Design Change and G-Motor Executioner

By Ken Jarosch

SPIRIT OF AMERICA - 2008, DESIGN CHANGE:

I have four 4" rockets with one 24mm Ultra Blast Lite (E28's and F24's) and 3 large G rockets (Sumo, G-Force and the heavy B4R). The first really large 4" HPR would need a minimum of an H128W-6 motor. It was to be built modular with the 3 chamber labyrinth baffle/bulkhead zipper-less design. The Spirit of America 2008 is LOC IV based but after that there is no comparison.

The first decision was how to incorporate the stand alone labyrinth baffle/bulkhead in Part 1 into the modular design using the LOC IV as a base starting point. The LOC IV body tube is 34" x 4". The baffle/bulkhead is 6" long. Just how to cut up the body tube or add to it was the problem. Also I needed to consider the recovery section above the fin can.

Another problem is that I use the 3 centering ring system to make a fin tab cage with the two lower CTRs (Centering Rings). I do all my work with the middle and upper CTRs epoxied to the motor tube. This gives me access to the fin tab cage to completely epoxy all adjoining surfaces. (See Photo 1) The rear CTR is epoxied in place as a last step (circa all AeroTech models). But with 3 CTRs and a long motor tube in place I just could not reconcile the 4th CTR and motor tube in the stand alone baffle. The cost in money, weight, space and the whole inefficiency of the design plan bugged me.

DESIGN CHANGE:

Looking at the stand alone design with it's 4th CTR and 5" motor tube inner chamber part while sizing the 20" 38mm motor tube and the 3 CTR system it dawns on me. Instead of the stand alone design with its extra CTR and motor tube part, I would make the baffle integral with the fin can design. The upper (3rd) CTR with an extended motor tube would become the base and inner chamber of the baffle. (See Photo 2) This also eliminates that body space between the motor tube and the bottom of the baffle. The motor tube goes right into the heart of the baffle. How efficient it became. It becomes just a matter of motor tube length and placement of the upper CTR. In any rocket you either cut it down or build it up. In the case of the S.O.A. 2008 with the 34" LOC IV body tube it was a cut down plan. But where to cut it down? Using the kit motor tube of 20" and figuring half of the 6" baffle/bulkhead gives you 3" inside the fin can. I needed 5" of motor tube inside the baffle but 3" of that was inside the body tube. I needed the motor tube to extend 2" beyond the body tube. So I needed a body section of 18". I cut the 34" body tube into an 18" fin can length and a 16" recovery section. The middle CTR was epoxied on the motor tube at the forward end of the fin tab slot and the upper CTR was epoxied 5" down from the end of the motor tube. That placed that CTR 3" inside the body as the base of the baffle. With the motor tube extending into the baffle 5" I had just integrated the concentric 3 chamber labyrinth baffle/zipper-less bulkhead into the upper fin can design. This is the basis for all further designs. (See Photo 3) I added the parts of two 11" payload units to lengthen the rocket.

At this point I have a five part rocket in 3 configurations: a 22-1/4" fin can (fins, 18" body & 3" exposed baffle/bulkhead), a 16" recovery section, an 11" payload section, an 11" payload extension, and the 12.75" nose cone. (See Photo 4) The available space in the 16" recovery section minus 6.75" for the 3" bulkhead and 3.75" for the nose cone shoulder leaves a little over 9" x 3.90" of space. This is more than enough for 18-25ft. of shock cord, two 3/16" quick links, swivel and parachutes from 36" to 50"+.

The base model is 48", with the payload section it is 59" and with an additional extension it grows to 70". The full up S.O.A. 2008 is 70" x 4" with an empty bare weight of 57 oz. so far. (See Photo 5)

The theme, Spirit of America – 2008 with Red, White & Blue coloration and the D.A.V. stickers to be used as decals is a salute to the Disabled American Veterans and their programs in the year 2008.

G MOTOR EXECUTIONER:

With the basic design criteria solved I decided to revisit the 15" LOC recovery system and nose cone that was too heavy for the 24mm retro-fitted Executioner in Part 1. I had the left over fin can parts from the extra Executioner kit from which I borrowed parts to rebuild the old rocket. So with the bottom parts and the heavy LOC upper parts I made this new model, a 29mm Executioner. I also made it zipper-less with the S.O.A. 2008 baffle/bulkhead design. Here we used a 6" LOC TC-2.56 coupler and bulkhead. The baffle middle tube is a BMS 4" BT60 coupler epoxied to the LOC bulkhead with the LOC screw eye. This tube is 1" short of the design length of 5" but it does not seem to be a problem. Of course the 29mm motor tube is extended 2" beyond the top of the fin can tube. The upper (3rd) CTR is set 3" inside the body tube or 5" back from the top of the motor tube, which is the same as the S.O.A. 2008 design. (See Photo 6)

Continued on the Next Page...

Baffles - Part 2 Continued

The completed two piece 29mm Executioner is shown in Photos 7 and 8. The nose cone is held on by 4 retaining screws and washers. The nose cone has a 1/4-2.0 eye bolt, fender washer and nut epoxied into the end molding. The recovery system uses 25' of 3/8" elastic shock cord with a 3/16" quick link at each end. The chute is a nylon AeroTech 22" attached at the 1/3L from the fin can on the shock cord. The motor retention system is 3 T-nuts in the rear CTR and the Public Missiles PMR-29/38 parts.

Both of these rockets have the motor tube integral with the baffle eliminating that body space of a stand alone baffle. The decision of how to size the middle tube chamber was a matter of space and parts available. I tried to design for a linear increase in the volume going from the motor tube to the middle tube to the outside coupler. Also I needed space between the middle and outer tubes to place the drill holes. I usually put the holes half way between the spaces and drilled the size of the holes at half this distance.

STATIC RESULTS:

For the 2.56" and 4" rockets it appears that this baffle/bulkhead design results in a solid fin can that allows for the free flow of the gas pressure. There doesn't seem to be much back pressure while the pressure easily pushes the recovery section off the bulkhead end piece. It must be due to the free flow of the gases and no loss of pressure as well as the recovery section acting like a piston. The separation should easily pull the chute and shock cord system out of the recovery section. As an added benefit by attaching the chute at the 1/3 length of the shock from the fin can that leaves the 2/3 length hanging down. That brings the upper sections in first to allow a slower descent of the fin can.

So while this works well in the mid size rockets, Part 3 goes into 5.5" and 7.5" and their related problems.

Ken Jarosch
NAR 56442 SR, TRA 10290


Photo #2


Photo #3


Photo #4


Photo #5


Photo #6


Photo #1


Photo #7


Photo #8

MASA Planet

Out and About

St. Cloud, Minnesota's Piece of Space History

Apollo High School

By Michael Erpelding

In a city not far from where I live sits a unique landmark. It has been in St. Cloud for as long as I can remember. It is the Apollo Command Module at Apollo High School. I have driven past it hundreds of times, but I have never stopped for a closer look. I decided that today was a good day to do so.

Construction of the new high school started at the height of the Apollo Moon Program in 1969. Tech High School could no longer hold all the students of one of central Minnesota's largest cities. The Class of 1971, consisting of over 800 students, was split between Tech and Apollo High School. My mother was part of that first graduating class from Apollo High School. The finishing touches to the school were still under way when classes started. The history of the Command Module capsule coming to the school is listed on a plaque in front of the capsule (inscription on the plaque is at the right).

I did a little research. There is a very good chance that the capsule at Apollo High School is CM 004B. Looking at A Field Guide to American Spacecraft on the internet and the JSC-03600 Apollo/ Skylab ASTP and Shuttle Orbiter Major End Items March 1978 Final Report from the NASA Lyndon B. Johnson Space Center, only CM 004B doesn't list an exact location of it's whereabouts. It just mentions being donated to an educational institution.

Michael Erpelding, NAR # 79922 HPR L2

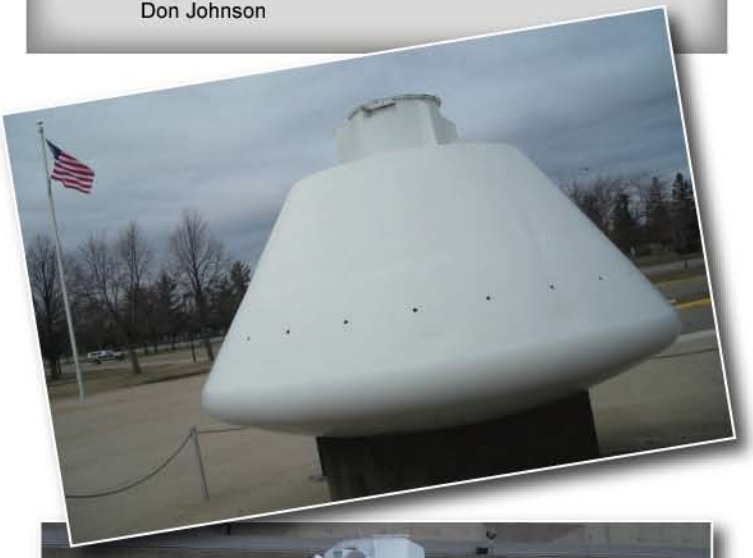
Apollo Space Capsule

1969 saw the first man on the moon and the building of Apollo High School. This capsule was used to train the support crews for the Apollo lunar flights. This is the only capsule ever released by NASA.

Through the efforts of science teacher, Dave Johnson and MN Senator Dave Durenberger, arrangements were made with NASA to release the capsule to Apollo High School. Anderson Trucking, Burlington Northern, Borgert Concrete, St. Cloud Aviation, community individuals and Apollo student fundraising brought the capsule to this site.

This unique artifact of human achievement in space was placed here in 1981 and serves as a symbol of pride and the hope that all Apollo students will take a giant leap in educating themselves and thus improve the quality of human life.

Sign given to Apollo High School by science teachers:
Lowell Olson
Ralph Kluball
Don Johnson



"Sky of Gold" Celebrates Vern & Gleda Estes and the Original Scout

Semroc has released the Golden Scout model rocket kit in honor of Vern and Gleda Estes in celebration of the 50th Anniversary of their little venture that changed the world.

The original Scout was designed by Vern in 1960. The Golden Scout (Semroc kit No. KV-4) includes all parts, instructions, and a unique Flight Number decal. The first 1500 Golden Scout kits sold will receive a unique Flight Number. To register your Golden Scout and be a part of the celebration, log on to www.semroc.com/skyofgold/.

To participate in the "Sky of Gold" event, build your Golden Scout, paint it gold, apply the Flight Number decal, and fly it sometime during the month of July 2008. To commemorate your participation in the Sky of Gold, Vern and Gleda have graciously agreed to mail signed certificates from Penrose, CO

Join us and be part of the "Sky Of Gold" this July to honor Vern and Gleda. MASA will have a Sky of Gold launch at the summer picnic.

A total of 222 Golden Scouts have been registered on Semroc.com as of May 10, 2008. The state of Texas has the msot registered Golden Scouts with a total of 20. Minnesota and Washington each have 14 registered Golden Scouts.

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MASA Directory

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

Club Website
www.masa-rocketry.org

President and Webmaster
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Vice President
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Secretary/Treasurer
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Jeff Taylor - jeff.taylor@mn-rocketry.net

Contributors to this issue:
- Mike Erpelding
- Ken Jarosch
- Alan Estenson
- Jeff Taylor
- Art Gibbens
- Rick Vatsaas

MASA Outreach Certificates Available for Download

Outreach has always been a major part of what we do in MASA. Girl Scouts, Boy Scouts, schools and many youth groups have requested MASA help for rocket building, displays and launches.

Now, when you attend one of these MASA Outreach Events, you can present MASA Certificates of Particiapation to all of the youth that are involved.

There are two types of certificates available for you to download from the MASA web site; one has a rocket background and one doesn't. If you would like a customized version of a certificate for an outreach project you are working on, contact Jeff Taylor at jeff.taylor@mn-rocketry.net.

Don't forget NAR's Fly 50,000 program with your outreach event!

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**

Tech Report

Rack 'em Up!

Nylon Chutes and a Way to Store Them

By Alan Estenson

I'm a big fan of nylon parachutes. They're durable, colorful, fold and roll nicely, and come in a wide variety of sizes and styles. They're essentially required equipment for mid and high-power rockets, but I've also used them in model rockets all the way down to "B" power. There are some drawbacks to nylon chutes – weight and cost being the two biggest. To save cost, you might have an entire fleet of large rockets, but you really only need a couple of good nylon parachutes in a range of sizes.

How does that work? Start by thinking of the parachutes as being separate entities from the rockets. First, don't permanently attach the chutes to the rockets, and, second, don't store them inside the rockets. This keeps you out of the mindset of thinking that one particular chute is only for one particular rocket. (Plus, if you store nylon chutes crammed inside a rocket for long periods, they will get crumpled and wrinkled. With chutes made of heavier weight nylon, they then won't want to open nicely.) After you've picked out the rockets that you plan to launch, you then grab a couple of appropriate chutes to bring along. When you're at the field, you install a chute before flight – picking one suitable for the rocket, motor, field, and weather conditions. The danger, of course, is getting to the flying field and discovering that your parachutes are still at home. Oops.

Over the years, I've accumulated flat parasheets from LOC and Aerotech, multi-gore hemispherical chutes from PML, X-form chutes from Top Flight, and the X type "jellyfish" chutes from Rocketman. Traditionally, I've stored them between launches by hanging them over the rod in the teeny-tiny closet in my little hobby workshop. Unfortunately, I have a tendency of piling stuff in front of that closet - making getting to the chutes a gymnastic event.

This past winter, I began pondering the idea of using some sort of hooks to hang my chutes on the wall behind the door to my workshop. This would make use of some wasted space and allow much easier access to the chutes. As a bonus, by getting the chutes out of the closet, I could then pile more stuff inside the closet instead of in front of it.

The accompanying photos show the chute rack that I built. It's pretty simple and was easy to fabricate - even for my mediocre woodworking skills. Anyone who builds one will likely tailor it for their particular needs, so I'm not going to present a detailed plan. The materials that I used were: two pieces of aspen 1x3's – two feet long (I could have used scrap wood, but these were only $1.69 each at Fleet Farm), 16 wooden clothespins (a bag of 50 is only a couple bucks, but check to make sure the rod will slide through the center of the spring), two feet of 1/8 inch diameter stainless steel rod (a decommissioned launch rod that had gotten bent on one end), and twelve screw-in hooks (nine cents each at the local Hardware Hank).

One 24 inch piece of wood became the backpiece of the rack, and the three risers were cut from the other piece. The risers were drilled through with 9/64" holes in matching positions for the rod, and then attached to the backpiece using glue and screws from the backside. Two countersunk screw holes were drilled in the backpiece for mounting the rack to the wall. I drilled evenly-spaced pilot holes across the bottom of the backpiece and then installed the screw hooks. With a little pressure, the horizontal rod can slide out of either end of the rack so that you can change the number of clothespins on each side.

That was it! If it hadn't been winter, I would have given it a coat of spray paint. Instead, it went straight on the wall and was loaded with parachutes.

Alan Estenson, NAR 69539

MASA April Meeting Minutes

The April 2008 MASA meeting was held on the 10th at the Science Museum.
5 people braved the horrible weather to attend the meeting.

The April launch on the 26th was discussed. The location at the time of the meeting was still to-be-determined due to the potential wet conditions at the Nowthen sod farm. The alternate location would be at the Elk River VFW soccer fields. It was announced that the Site will be determined by the 20th and the web site would be updated accordingly.

An announcement was made that the topic for the next meeting (on May 1) is "hybrids".

Other discussions:
- NARCON 2008 was a huge success for MASA and is now almost a month behind us.
- We will be planning something special for MASA's 10th anniversary celebration for the club picnic in July. If you have any ideas, please pass them along.
- If you are building one of the Semroc Golden Scout kits, we encourage you to fly them in July at either the picnic or the regular launch.
- If you have any ideas for how to make the regular club launches more fun and interesting (themes, contests, special events, etc), please let us know.
- The NARAM 50 will have a "Fly-it / Take-it" event for kids (13 and younger) or first-time flyers of any age to have an opportunity to fly an already-built rocket and then keep the rocket. The organizers have asked NAR sections to build between six and twelve rockets for donation to the event. The only restriction is that the rocket(s) must fly on a single 18mm black powder motor. MASA will be supporting this event by donating a minimum of 6 built rockets; we need your help donating and/or building. If you would like to help out, MASA Vice President Carol Marple will be collecting the donated rockets at the April launch or the May meeting and then will ship them to the NARAM 50 organizers.

Safety Training
The evening's topic was range safety, rocket safety, and RSO/LCO training. With the small turnout, this mostly consisted of discussion, Q&A, and going through the RSO/LCO checklists. A selection of related safety information has also been made available in the Files section of the masarocketry mailing list.

Show -n- Tell
- Caleb Boe brought his compressed air pyro-free ejection system - now installed in an airframe.
- Alan Estenson brought his vintage Estes Kadet (The first rocket that I ever launched.) and a new Semroc Sky Hook built with a 13mm motor mount.

MASA May Meeting Minutes

The May 2008 MASA meeting was held on the 1st at the Science Museum.
A total of 12 people attended the meeting

The decision was made to hold a just-for-fun Fat Boy Duration contest at the May 31 "Fat Boy Mania" launch. Buzz McDermott volunteered to be the contest director. See Page 1 of this newsletter for contest rules.

It was decided that one of the topics for the June meeting will be "kit bashing". Bring some examples of kits that you have bashed to the June meeting. This will aslo kick-off the 2008 Kitbash Contest.

It was noted that roughly 13 members from 2007 had not yet renewed their MASA memberships for 2008. It was also noted that many renewals and new memberships generally come at the first summer launch at the sod farm.

A reminder was made that the NARAM 50 organizers have asked NAR sections to build and donate 6-12 rockets for the Fly It/Take It event for kids 13 and younger or first-time flyers of all ages. MASA Vice President Carol Marple has agreed to collect and ship MASA's contributions to the event.

Plans for the summer picnic in July are underway. This will be a celebration of MASA's 10th birthday and a chance to fly your Semroc "Sky or Gold" Golden Scout (see Page 7 for details).

A Summer Solstice Evening Launch is being planned for Saturday June 21. Depending on field use with the soccer teams, this event may be held at the Elk River VFW. Ideas and volunteers for launch themes and fun contests are welcome.

It is highly likely that the MASA meeting place may have to move from the current site at Science Museum in the next few months. Alternative sites are being examined, including Newport or South Minneapolis. If you have any suggestions, notify MASA President Alan Estenson.

Glen Overby and David Whitaker presented "One Summer of Hybrids", their joint presentation from NARCON 2008. They talked about the pros and cons of hybrid motors, and the available types and brands. They brought along their 29mm and 38mm SkyRipper motors and described their components, assembly, and the costs

Continued on Page 11

MASA Planet

TARC Team Update

Hope Christian Academy Students Rocket to National Race

Reprinted with permission from Southern Washington County Bulletin
Published Monday, April 28, 2008
by Toni Lambert
Submitted by Art Gibbens

It took the team at Hope Christian Academy in St. Paul Park two months to design, build and test its first model rocket this winter. And, although that rocket qualified for national competition, there's a hitch.

"We have to build another one for finals," said ninth grader and team captain Aaron Anderson. "We lost the first rocket to an 80-foot-tall cottonwood tree after it qualified."

The replacement rocket must be built in less than a month to compete in the Team America Rocketry Challenge, the world's largest model rocket contest, scheduled at The Plains, Va. on May 17.

Student team members include Anderson, and eighth- graders Philip Gibbens, Matt McCall and Angie You. The team is one of 100 teams that qualified to compete in the national contest. More than 6,000 students on 643 teams attempted to meet the contest's requirements.

The contest rules are very strict, according to Art Gibbens, team mentor. Students are required to design and build a model rocket that can fly for as close to 45 seconds total flight duration and 750 feet maximum flight altitude as possible with a payload of two raw eggs, and successfully parachute the eggs back to the ground unbroken. In the qualifying competition, the rocket reached an altitude of 749 feet, with a total flight time of 40.24 seconds. It weighed 815 grams or a little more than one pound.

"I can't do anything. They have to do all the

South Washington County Bulletin Toni Lambert Photo

research and construction," said Gibbens, who has been building model rockets since he was in eighth grade.

At the beginning of the project, each team member designed their own rocket and everyone voted for the best design.

"We used the Rocket Sim program," Anderson said. "Once the rocket was built, we ran more than 600 virtual test firings."

"Our second rocket will have to be exactly like the first one," team member Philip Gibbens said, "Otherwise, we will have to test a lot."

Anderson expects the team to place among the top 10 teams in the finals. Three years ago, the Hope Christian Academy team placed fourth and won an award for the best recovery system. Last year, the rocket lost its recovery parachute, landed on top of a baseball dugout and the eggs were broken.

The rocket is made from paper, balsa wood and some plywood. The eggs are wrapped in memory foam. Clay is used inside to adjust for altitude.

The top 10 teams at finals will share a prize pool of $60,000 in cash, and the winning team will receive a free trip to Farnborough Air Show near London in July.

What do they like best about the project? Philip Gibbens and You like the building side. McCall thinks it's great to see their work succeed, and Anderson says the actual flying is the most fun. "You get to push the buttons," he said.

Toni Lambert can be reached at tlambert@swcbulletin.com.

MASA Members in the News!

MASA May Meeting Minutes Continued

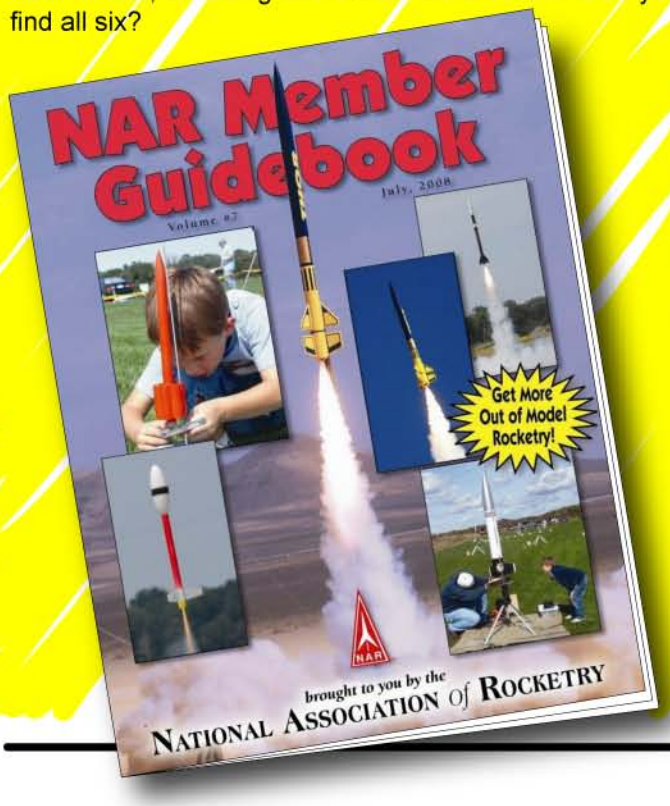
involved. Glen and Dave went over the ground support equipment needed to fill the motors with Nitrous Oxide and ignite them. Then, they went through the process of prepping and flying their hybrid-powered rockets, and presented their flight results from last summer.
Great presentation, Glen & Dave! Thank you!

Show -n- Tell:
Rick Vatsaas brought two scratchbuilt rockets that were inspired by using a disposable plastic wineglass for the nosecone. He built one of the rockets as a tribute to the Golden Scout. He also showed how he is using special ziplock bags and a mini vacuum pump to vacuum bag fins.
Art Gibbens brought a whole rack of vintage late 70's - early 80's rockets that he recently acquired. (Falcon Commander, Norad, Starship Nova, Soaring Eagle, Orion Starfighter, Torellian Invader, EAC Viper, ALCM, Scissor Wing...)
Buzz McDermott also brought a big selection of newly-finished rockets - Proconsul, Optima, Tuber, Interrogator, Der Red Max, Goliath...
Alan Estenson brought a Goony Goblin and a cloned Cherokee D.

Moon Trivia: Astronaut Neil Armstrong first stepped on the moon with his left foot.

MASA Pictures Featured in 2008 NAR Member Guidebook

The 2008 NAR Member Guidebook contains six photos from MASA, including two on the front cover! Can you find all six?



MASA Planet

MASA Stats...

84 Number of current 2008 members

11% of the current members have been with MASA since the first year (1998)

6% of the current members have a NARTREK certification

15% of the current members have a high power certification

9,747 Total number of engines used at MASA launches (from posted flight cards since 1998)

98.3 Average number of posts per month on MASA Yahoo Group

256 Highest number of posts in one month on MASA Yahoo Group (June 2001)

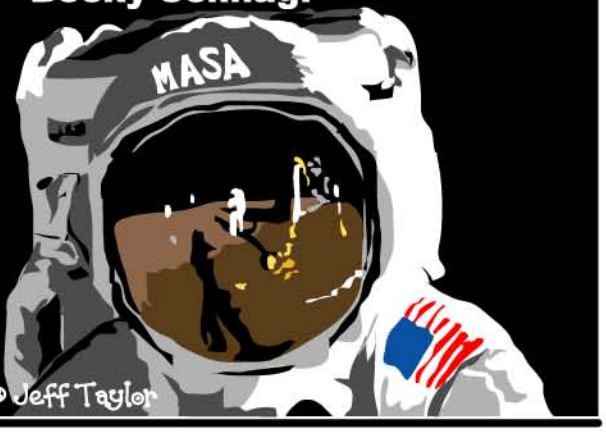
6 MASA members who gave presentations at NARCON 2008 (Andy, Ted, Ray, David, Glen and Dwayne)

244 Highest number of flights at a single MASA launch (Tie between July 2001 and April 2004)

MASA Welcomes the Following New Members:

- Lynn Arnsdorf
- Kevin Day
- Abby Juntunen
- Andy Juntunen
- Karen Juntunen
- David Kearsley
- David Schaffhausen
- Nancy Schaffhausen
- Becky Schnagl

Welcome



MASA Planet

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MASA Planet Parting Shot...

In Memoriam
Wally Schirra
March 12, 1923 - May 3, 2007

The only astronaut to ever fly in all three early manned space missions: Mercury, Gemini and Apollo

Mercury: Sigma 7
Launch: October 3, 1962

Gemini: Gemini VI
Launch: December 15, 1965

Apollo: Apollo 7
Launch: October 11, 1968