MASA Planet

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Safety First!

Two Near Misses

New concern about bystanders

Ted Cochran, NAR 69921

In the past few months, two near misses have occurred at organized sport rocketry launches. In the first incident, a rocket under chute struck a spectator in the head, resulting in a laceration that required stitches. In the second incident, a rocket apparently drag separated at burnout, resulting in a parachute separation and the ballistic return of the fin can. The aftermath is shown in the accompanying pictures: An attendee's vehicle was damaged severely enough that it had to be towed from the scene. The scariest part of this incident is that the car was occupied by a parent and two kids at the time of the crash!

These incidents, and a few others that have been

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Cansats Fly!

Rocket Scientists (in training)

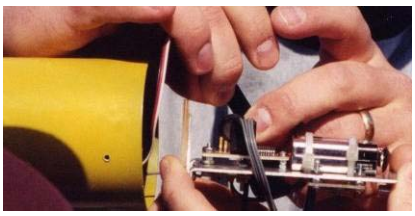
Alan Estenson, NAR 69539

On Friday morning, April 8th, two student teams from the University of Minnesota, Aerospace Engineering Department, journeyed to the sod farms of North Branch. Both teams had assembled CanSat instrumentation payloads and launch vehicles. Over the past few months, Dave Leininger and myself had been lending the teams some rocket advice, and their launch day had finally arrived. With the help of fellow rocketeer Matt Murphy, Dave and I set up the range, and then we turned our attention to helping the teams prep their rockets.

Alan Estenson

Quite a group turned out for this event. There were 14 students from the CanSat teams, plus spectators, launch crew, other interested people from the department, a camera crew, and even a few locals who wondered what the heck was happening.

Each of the two teams had put together a CanSat payload. This consisted of various instruments (temperature, pressure, acceleration, etc) that sent data through a live radio telemetry downlink to the ground where it was received and recorded on a laptop



Alan Estenson

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Safety, continued from page 1

less well-publicized, will result in a study by a committee of NAR volunteers that will review current range operation guidelines and make recommendations for changes, if any, that might improve safety. None of us wants to hear about the first sport rocketry fatality in history!

Even if nothing at all can be done to improve range safety practices (which I seriously doubt), we can at least develop a better understanding of the likelihood of an incident, and make every launch attendee more aware of the risks involved.

However, we should be able to do better than that. The current standoff distances were developed primarily to protect us from engine malfunctions, and they have done an excellent job over the years. I don't think that we can create a similar symmetrical exclusion zone for the possible recovery area of all of our rockets, or we'd all be very far away from the pads, in blockhouses, looking at the rockets with binoculars. However, we may be able to reduce the possibility that the most dangerous situations (ballistic descents of large rockets, for example) will catch observers unawares.

To do this, we might have to model the characteristics of the landing zone for ballistic flights, and develop a better understanding of what factors matter most. Is it wind speed? Are brisk winds really more dangerous than calm winds? How about crowd density? Do we have a good idea of when a flight should be sent to the far pads, or called as a "heads up" flight? Are the traditional "heads up" warnings the best we can do? How big can a rocket be before we start having to pay a lot more attention to the crowds? Are safety measures just for large launches, or is there more we can do when we're launching on our own, too?

In one sense, we are fortunate that the popularity of the sport is drawing crowds. We just need to be sure to do everything we can to keep them safe!

CanSats, continued from page 1

computer. Each payload also had onboard GPS (not telemetered).

Alan Estenson

The first team had constructed a Rocketman "D.R. Hero" as their launch vehicle. After final prep, it blasted into the sky on a Pro54 J295. It had a very nice flight with ejection about 2 seconds after apogee and a slow descent under a big Rocketman chute. The sims had projected 5,000 ft, and I'd say that they got it. Unfortunately, this team didn't successfully receive any telemetry data points during the flight. When the GPS was recovered, it only said about 3,000 feet (much lower than reality, in this rocketeer's opinion). So, the flight was a success in rocketry terms, but not so much for the science.

The second team had constructed a PML "Miranda". They also used a J295 for propulsion. It was another rip-roaring flight with ejection about a second after apogee. Again, I'd say that they achieved the 6,000 ft predicted by their simulations. Using a smaller PML chute, this rocket had a quicker descent and landed on the sod. This team did successfully receive some telemetry data points during the flight. Afterwards, their GPS claimed 7,000 ft which was probably a bit high.

Alan Estenson

We just might have spread the high power rocketry "bug" to some of these young engineers, and we may see some of them again at local launches.

Congratulations to all of the U of M CanSat team members!

Meeting Schedule

Thursday, May 5
Location: Science Museum of Minnesota, St. Paul
Time: 7 PM to 8:45 PM
Topic: RSO/LCO Training: Ted Cochran

Thursday, June 2
Location: Science Museum of Minnesota, St. Paul
Time: 7 PM to 8:45 PM
Topic: Tube Fin Rockets: Alan Estenson

Saturday, July 16
MASA summer picnic!

Launch Schedule

Note: Times and locations subject to change!
Check the web site for updates

Friday, May 6 through Sunday, May 8
National Sport Launch
Plaster City, CA (http://www.nsl2005.org)

Saturday, May 21
Team America Rocketry Challenge Finals
The Plains, VA (http://www.rocketcontest.org/)

Saturday, May 21 (a week earlier than usual)
Location: Nowthen; waiver to 5500 ft. MSL
Time: 9 AM - 4 PM
Fat Boy and Comanche Drag Races

Saturday, June 25
Location: Nowthen; waiver to 5500 ft. MSL
Time: 9 AM - 4 PM
G80 & HPR Drag Races

Outreach Opportunities

Thursday, May 12
Location: Long Lake Regional Park
Time: 6 PM to dusk
Cub Scout Pack 626 Outreach Launch

Friday, May 13
Location: Westwood Elementary School
Time: 1 PM
Annual Building session

Thursday, May 26
Location: Bethune Park
Time: 1:00 PM
Rocket League Annual Launch

Wednesday, June 1
Location: Park Terrace School
Time: 1:00 PM
Annual Outreach Launch

Friday, June 3
Location: Westwood Elementary School
Time: 1 PM
Annual Outreach Launch

President's Corner

New Field!

Many members have been very busy helping different teams with the Team America Rocketry Challenge (TARC). Extra launches were held to try to give as many opportunities to 19 MN teams and one WI team, to make qualification attempts in. I would like to congratulate Apple Valley High School, Hope Christian Academy, and the Dakota County 4-H Federation on making it into the top 100 finalists; they will get to travel to Virginia for the Final Fly off on May 20- 22.Good luck to each of you!

Another item of interest this spring was our first launch at our new field near Nowthen, MN. We attempted to have a launch at this site last October, but we were rained out. This spring Alan was contacted by two teams of Aerospace Engineering students from the U of M about their Cansat program. They were hoping to fly their payload package, which was the size of a soda can, in a rocket to about a mile high. This prompted me to start our first waiver application about a month earlier than I originally planned. Alan was able to coordinate a special launch with MN Tripoli North in North Branch for the students, a little earlier in April.

The FAA and MSP airport people were very kind, courteous, and helpful in helping me securing a 5500 foot MSL waiver for our Nowthen site for the entire year! We just have to give them a notice 24 to 48 hours before we want to activate the waiver. Since the elevation of this site is about 950 MSL, we will be able to fly rockets to a maximum altitude of about 4500 feet AGL.

Saturdayís launch was a success, considering the 15 mph winds out of the North most of the day. We had a grand total of 60 contest and sport flights made by 23 people. I know that we had a couple more people just stop by to see the new field and didnít fly anything due to the wind/ other commitments. Unfortunately we only had enough entries in the Open Spot Landing event to earn anyone contest points. I flew one rocket in this event. Unfortunately there didnít seem to be an ejection charge in the motor, resulting in a fence post landing from about a 30-40 foot apogee. I did manage to find time to fly one other rocket during the day. It was my PML Explorer on a Cesaroni Pro 38 H153: The first H powered flight at a MASA launch in two years! It was a great flight, hopefully the first of many HPR flights in MASA's future.

One safety point about parking at MASA launches: We need to make sure that no one parks directly up wind from the pads. If a weathercocking rocket fails to deploy its recovery system, we could easily hit a vehicle. That would be especially bad with a MPR or a HPR rocket. It wonít hurt any of us to walk just couple of hundred feet more to the range, to launch our prepped rockets.

Take care,

Mike Erpelding, NAR # 79922
MASA President

Road Trip

NARCON I

Mark's second year in Kenosha

Mark Thell

My report begins with yet another trip across the beautiful state of Wisconsin.Mike Erpelding drew the short straw and was my roomie for the extravaganza.

Thanks Mike.

We arrived at the hotel about 3:00 or so, put our stuff away and headed to the venue.We signed in, got our t shirts and our packages and headed to the vendor room. We got there just in time, most vendors were still setting things up. Al's hobby shop happened to have what he called his"$20.00 box" Everything in the box was $20.00,Unfortunately the 4"kits were already gone, but I did snag a 3" PML Black Brant, and Mike got a LOC Expediter I think.Not bad.

I just want to take this opportunity to mention that our club President is a FAMOUS GUY!!!!!

Everywhere we went, people came up to Mike, shook his hand and said how great it was to see him again.I mentioned to him that I had no idea what a big shot he was and said it was alright for him to introduce me as one of the "little people". This went on for awhile till Vern and Gleda Estes came in the vendor room. I'm in there going OHMYGOD IT'S THEM!!!!!!!!! Then, Gleda herself comes up to Mike shakes his hand, how have you been.??? WOW

Mike takes all this in stride,pretty cool.

Anyway, it was fun seeing all the guys again, I went nuts in the vendor room again this year, I had to pace myself again. I am happy to announce that I came home with $$$$ again this year(my wife likes that)

After dinner the Opening ceremonies were held. Ky and Jodi Michaelson were there along with Bruce Lee and they brought along the nose cone from the Space Shot rocket. I have heard Ky speak before and to me this was his best one yet. You could hear a pin drop as he spoke of the problems he had just to be able to launch. This man has a drive like I have never seen before. I found out he was trying to do this a few years ago and I thought to myself, "If anyone can do this, Ky will". Once he sets his mind to doing something NOTHING stands in his way. He received a standing ovation when he was done with his speech.

Mark, drooling. Glen Overby

Saturday was an extremely busy day at NARCON. In fact, I wished I could have been in about three places at once. If you picked one thing to go to, you missed out on a lot of other interesting sessions. Mike E had his Cape Canaveral launch systems workshop going first thing in the AM and I helped him unload Cape Canaveral from his pickup, He was going for a "Tim Allen, Tool time" look, I guess that made me "Al"(No, I did not have a flannel shirt") Mike, wearing a very sporty yellow hard hat and tool belt talked the group through assembling a pretty easy launch pad setup. All participants, while wearing safety glasses, did the required drilling on the pads, put them together and took them home.

Glen Overby

MASA President Mike Erpelding demonstrating safe practices.

Mike then showed the crowd his new multi pad nuclear powered launch system, It is an EXTREMELY heavy duty system (what else would you

expect from an electrician?) I'll let him tell you about the nuts and bolts of the system...

There was a launch concurrent with the events on Saturday, The winds were a LOT heavier than I thought they would be and we had heard differing reports that the launch was cancelled, it was going on but stopping early,I did want to make the trek out to the Bong field this year, I had heard a lot about it, good and bad, and I wanted to see it for myself. MASA's own Ellison Lenz was planning to do his L1 cert at NARCON. He needed witnesses so Mike E and I volunteered. His dad was a vendor this year and could not get away,so Mike and I drove him out there.The winds had died down a lot since early morning.

I was impressed with the field. It seems big enough to hold a NARAM on (you WOOSH guys...hint, hint) Yeah there's a couple trees, so what. that's why you have a telescoping pole for, (or chain saw, just kidding) I flew a couple flights there, got'em back, what else could a guy want. I'll let Ellison tell you how his flight went.

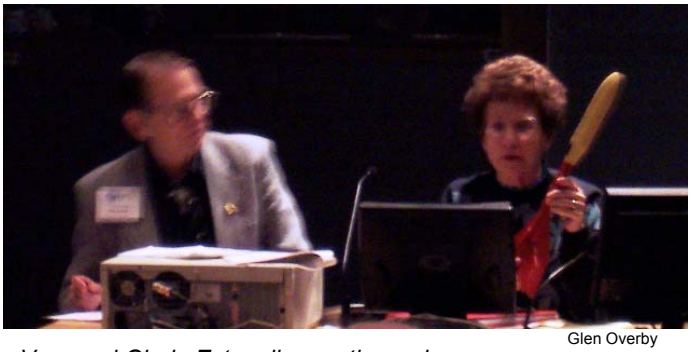
Glen Overby

NAR Trustee and former astronaut Jay Apt.

We packed up and got back in time to hear Dr. Jay Apt speak on his experiences as an astronaut. Great job, excellent photography, and if you ever get a chance to hear Dr. Apt, do it.

After a quick bite, it was time for what I thought was the highlight of NARCON, Vern and Gleda Estes' speech. I had brought a few things along in hope that I might get AN autograph on. I had the opportunity earlier in the day to meet Vern in the vendor room. I had my 30 year old EAC Viper kit in hand when I met him. When I shook his hand all kinds of memories came to me. I was a 12 year old horn rimmed glasses wearing geek, I was lousy in sports, this guy gave me a hobby that I have loved for over 30 years, I got a little emotional. He was just great!! He graciously signed my rocket and posed for a picture with me. I'll never forget that.

While waiting for the speeches to start Vern came around to us for more autographs. I quickly brought out my 30 year old Mars Lander kit and mt 1971 Estes catalog andf he signed BOTH of them!!!!!!SCORE!!!!!!!.



Glen Overby

Vern and Gleda Estes discuss the early years.

These will be cherished for years to come.

Their speech was very well done, Vern is working on his autobiography based on letters received from his mail order customers. All I can say is Git er done, I'll buy one. They are both very soft spoken people who at the time had no idea how much their business meant to us kids. I had no idea Gleda was so involved in the company, it was really fun listening to the stories they had to tell. At the Q and A part Vern was asked if he made a mistake selling the company and he said yes. They brought along a couple kit prototypes, one was the first Big Bertha, for the life of me I cannot remember the name of the second kit I do remember that it was used for carrying the first flying tarantula.

After the speeches were over, a bunch of us went to the Texas Roadhouse for a Rocketry Forum get together with Jim Flis as our "leader". My group arrived to find that we were all scattered around the restaurant. I was seated at a table with Jim and Kathy Flis and Carl Tulanko, We had a great time over dinner talking rockets and such. Jim went around taking pictures of the group that can be seen on his website. Thanks Jim and Kathy for inviting me to your table.

Glen Overby

Mark Bundick, custom tube maker

Sunday was spent just wandering around talking to people, I went over to the main signup table to see if I had won any door prizes yet(not now) I was talking to Kevin Wickart as the next batch of door prizes was announced, Winner of a sleep number type pillow??? Kevin Wickart, his daughter won a couple things, Kevin won a couple more things, I was starting to think it was

Glen Overby

Ted Cochran discusses Brand X.

a little rigged, I was wondering if I was going to win anything, I seem to remember Kevin Wickart winning a foot massager (or was it a foot massage from Walt Evans)? Walt seems to be a nice guy, but I gotta draw the line at a foot massage. I did end up with a gift certificate from LOC though.

I have finally figured out why NARCON is so much fun, it's the people. Everyone is so friendly. Coming back this year was like getting together with "family."

It was so much fun. For example, I had a set of old, old X-15 plans with me I don't remember where I got them from. I was showing them to somebody, Tom Pastrick came up and took a look at them and was interested in maybe upscaling them for an R/C X-15. I do not know Tom all that well but I have seen his work before and I had no hesitation in giving him the plans, we exchanged e-mail addresses and I have no worries that I will get the plans back. I think I read someplace that you could leave your wallet out in a room full of

Glen Overby

Andy Heren schmoozes with Scott Hansen.

rocket people and not have to worry about it. You cannot say that about all people.

Mike Erpelding and I took off for home in the early afternoon. Word on the street is WOOSH is going to do it again next year. If so, I'll be back!!!!

Big, BIG thanks to the gang at WOOSH for putting this event on. I'm looking forward to next year.

Road Trip

NARCON II

A new vendor's perspective

Stuart Lenz

After a shaky start trying to find NARCON, using directions that had mileages but no starting point. We were able to find both the hotel and the convention center by 3:20 P.M. on Friday only after we stopped and bought a map of Racine and Kenosha counties. Apparently returning venders knew where to find the hotel, convention center and most important, the vender room. They also knew how to get the convention information and even had name badges printed. Being new to the process, we started out confused, miss directed and without even a printed badge. Things got better fast after we stumbled into the vender room, which was in a state of complete chaos with 8 other vender in the process of setting up displays and laying out their products, and we met Carl Tulanko. He quickly recognized our confusion, got us orientated and introduced us to the vender coordinator, Gabe; let the fun begin!

We dropped of our stuff, carried it miles to the vender room (remember the cart next time), pick out an area and set up our display, right next to the legendary Jim Flis. Additional venders continued to arrive over the next few hours for an eventual total of twelve. Even though they had never heard of us or had any knowledge of our products, they welcomed us as fellow venders.

On Saturday, I got to meet Peter Alway, when he arrived and set up his booth near mine. Vern and Glenda Estes stopped by at one point, examined our products and wished us luck on our venture. The Quest representative, stopped by for a nice chat and an update on the availability of their Micro Maxx engines and their plans for future release of Micro Maxx kits. He also gave us a look at their, in progress, 18mm D(20?) engine. It will be cool.

Saturday started at 8:00 A.M. and the multiple parallel presentation sessions started at 8:30. Ellison got a change to go to some of the sessions and even got to the Bong launch with Mike Erpelding and Mark Thell, where be did his level 1 certification with a HyperLoc 300 on an Ellis Mountain H55.

Throughout the day, a small number of buyers visited the vendor room, mostly between sessions and I had the chance to meet many of the people that I had only heard of or had only communicated with on the Internet. On Saturday evening, after Vern and Glendaís presentation, members of "The Rocketry

Glen Overby

Mark Bundick at the NAR Town Hall meeting

Forum" met at the Texas Roadhouse for a late dinner. Sunday was a repeat of Saturday, with additional presentation sessions to choose from and buyers visiting the vending room. There were never large crowds of buyers and all of the vendors seemed a little disappointed with their sales volume. Being a first time vendor, I did not have any particular expectation for sales, but Tedís expectations that I would sell out of kits was not met.

Departure on Sunday afternoon could have been difficult, with another group using the Inner Loop Road for a multi round bicycle race, but the convention made provisions for the venders to drive in, load and depart during the races. Most of the vendors started packing up after lunch and we were packed, loaded and on the road a little after 1:00 P.M. and home before 8:00.

Our sales paid for our trip, hotel and food. Pretty exciting actually. On to NARAM next.

Road Trip

NARCON III

A new attendee's perspective

Andy Heren

I was quite excited to attend my second NARCON! Iím very thankful that it was in Racine again this year as this gives us an opportunity to attend this weekend of rockets, rockets, rockets.

Meeting Vern Estes

There were many highlights for me, but I guess the biggest was meeting Vern Estes. I didnít grow up building rockets, but even an awareness of rockets was synonymous with Estes. I knew the name and since getting involved in the hobby in 1995, Iíve tried to learn the history of our hobby and learned the part Vern Estes played. After NARCON I learned what a huge part his wife, Gleda, played.

Andy Heren

Andy, with Vern Estes

Hearing them tell their story was such a historically interesting evening. We heard how they started the business and how they developed it into such a huge industry. I also found out what warm, everyday people they are. Talking with them was so enjoyable. The picture of Vern and I will be one I will cherish (even though my eyes are closed!)

Parachute Building

I also attended a workshop by some guy named Ted who told us how to build our own parachutes. I became excited about building my own nylon parachutes. However, it also made me realize how much time I DONíT relax and enjoy the hobby. He made it sound almost easy to sew these parachutes out of nylon, but I know it would not be the easy task one would think. It was very informative to get me started in yet another area of model rocketry.

Ted shared his techniques for building a variety of parachutes. What can we expect next year? Quilting tips?

Decaffienater Building Session

Here we joined Jim Flis in building one of his new rocketry creations: The Decaffeinator. The part I enjoy about building sessions is that you get to build the kit without having to actually purchase it!

Andy Heren

Dave and Elliot give a whole meaning to the phrase, "caffeine junky."

Dave, Ellison, and I joined Jim as he took us through the steps in building this ingenious rocket made of Styrofoam coffee cups. I didnít finish the entire rocket, figuring it would be easier to transport home. I finished it at school and enjoyed the exclamations of the students (and some parents). I was going to launch it at our April launch at school, but the weather didnít cooperate.

Once again I saw that a "famous" person like Jim Flis is just a regular guy who happens to have a great sense of humor. It didnít take long to him to realize how easy it is to give Ellison a hard time!

I look forward to our May launch at school, as are my students. They are all anxious to see the Decaffienator fly!

I hope that the rumor is true and that NARCON will once again be held in Racine in 2006. Otherwise, I cringe to think of what I am missing out on if it is held in Texas or another far away place. If it is there again next year, I hope that even more MASA members can attend.

Product Reviews

First Look: RockSim V8

Easier to use, and it works on the Mac!

Ted Cochran

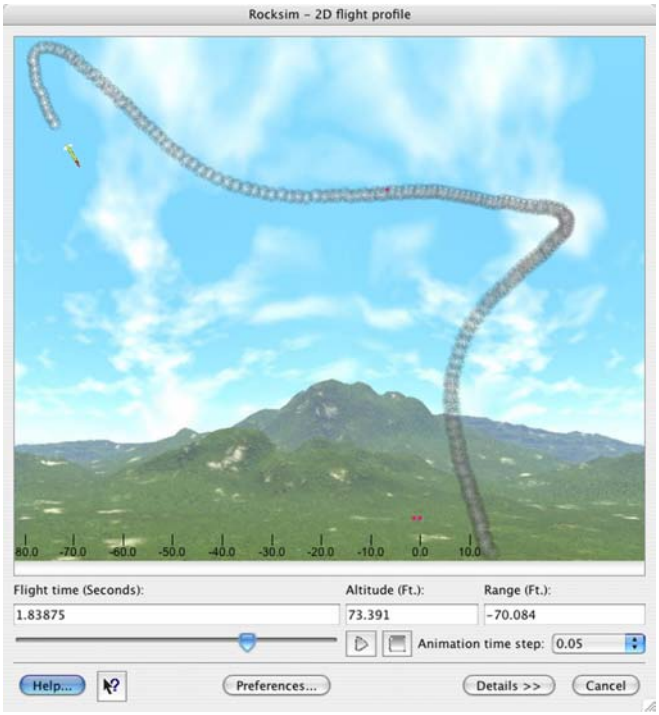
RockSim has always been an industry standard for designing rockets and simulating their flight--but it has never run on Macintosh computers. In the late 1990s, I had a PC emulation package to use on my Macintosh computer just so I could run RockSim. That was an expensive (and slow) solution for the problem. Apogee Components has now fixed that problem once and for all, through the release of RockSim V8--the first version of the program to be able to run natively on both Macs and PCs.

Why port RockSim to a platform with such a small share of the personal computer market? One good reason is that Macintoshes have a relatively large share of the educational market, and RockSim is a great educational tool. Besides, Mac users are both loyal and vocal, and I'm sure that Tim Van Milligan, the proprietor of Apogee, heard from them frequently.

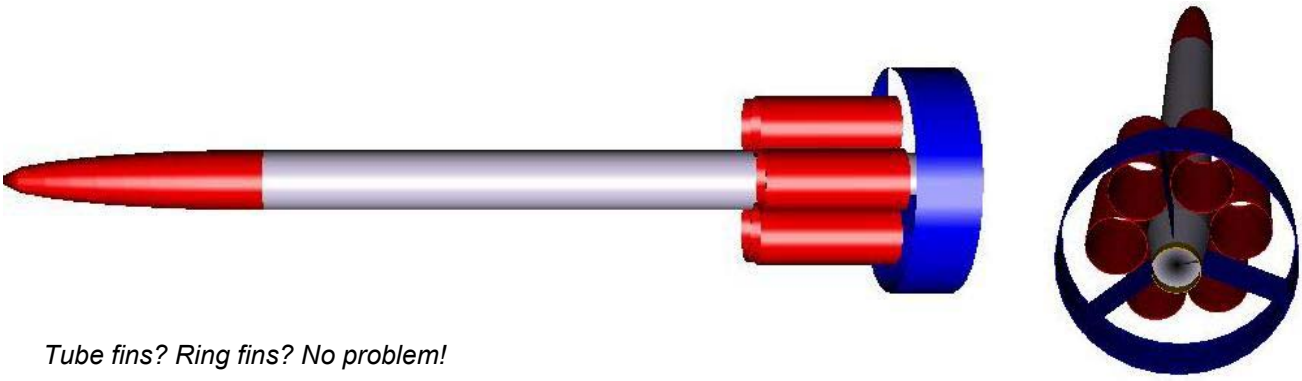
Apogee took advantage of the new release to add a lot of features, mostly to improve ease of use, but also to support a greater variety of rocket designs. For example, ring fins (also known as ring tails) and tube fins are now supported directly--no more need to approximate them with workarounds. The education market will undoubtedly appreciate the souped-up flight profile screen, which includes a scenic background, a picture of the model, and realistic smoke which drifts away with the wind. It's a great way to learn the consequences of instability without wrecking a favorite model!

There are a large number of productivity improvements, as well, including an easier to use engine editor, a feature that allows editing of existing simulation runs, a new ability to export pictures of the rocket, better support for rocket coloring, easier data entry during model development, better support for printing, and easier entry for large numbers of parts.

RockSim V8 is available now for $99.95. Upgrades from previous versions get a price break, depending upon how recently those versions were purchased. You can go to www.ApogeeRockets.com/rocksim.asp, purchase RockSim on line, download it, and be up and running within a few minutes.



No animals will be harmed in the making of this video.



Tube fins? Ring fins? No problem!

Outreach

TARC Qualifying

Hope Christian Academy: To the Finals, and beyond!

Art Gibbens

I don't have any pictures for this year's fiasco of flights, but here is a blow by blow of events thus far to get Hope Christian Academy to the TARC finals:

Saturday March 5th dawned a tempest day with melting snow on the ground with mud underneath in the cornfield outside of Cottage Grove that the HCA Eagles had selected to fly their two "beta" designs to see which one they would move forward with. The first design was more traditional in that the egg capsule separates from the sustainer and the two parts came down under their own parachutes. After weighing carefully the amount of clay needed for the brisk 12 to 15 mph winds they launched the rocket with design one as the payload capsule. It boosted nicely and the sustainer lit without a hitch. However, when the sustainer and the egg capsule separated, so did the parachute from the egg capsule. Actually it was still attached by two shroud lines and the parachute fluttered nicely as it picked up speed until it came in contact with the mushy earth. It was not mushy enough to save the eggs and the team recorded their first omelet of the season. Both the sustainer and booster came down nicely. This egg capsule was a complete loss.

Design number two was a "dumping" payload section, in that the eggs would come out in separate capsules with separate parachutes. The "hatch" was spring loaded and was designed to open when the ejection charge pushed the payload section off of the sustainer section. This design allowed them to only launch to about 220 feet up and the eggs would drift ever so gently to the ground. However, the spring loaded hatch didn't spring open and the very heavy rocket came down on the sustainer parachute for a safe recovery.

Back to the drawing board.

Saturday March 19th was the first day the team had to try to qualify. They had planned on two trial launches and two qualifying launches. Such high hopes. It was a bit breezy this day, though not as bad as two weeks earlier. It definitely was colder, as there was an ice rink in the field where they were launching. They launched at MASA's western most field in Buffalo, MN. Mike Erpelding was there with the club equipment to lend ground support. Again, the team weighed out the necessary clay to put in the payload section of the second design and got it out to the pad. It was an ugly launch because at least one of the booster engines did not light which means when the sustainer lit it did not go high enough for the recovery system to work as designed. It came in hard and bounced off of the frozen cornfield. Ever see an accordion? Kind of what the rocket looked like upon initial inspection. After getting it back to the van they realized we could get in at least one more flight that day, but that the second design egg capsule was toast.

So they rolled the dice and made the best guesstimate for their first qualification flight. The second launch for that day was also less than perfect because they had a suspected CATO of an older D12-0 that got put in the booster by mistake. So while the booster was still trying to boost the sustainer lit early and took off, leaving the booster spinning under thrust. Again, it was an underpowered flight, however the chute came out and was timed for an official qualification flight with a score of 44.5. Plenty of room for improvement.

Later in the day, the sustainer dropped off of the high tension power line and I met Mike half-way the next day to retrieve it. They still had to rebuild the sustainer and booster sections from the abuse they received on this day's launches.

Because of another school related trip the team was not able to fly again until the last weekend of qualification flights. Then a very dear lady known to many of the students because she worked at the academy passed away and the funeral was on the Saturday of that weekend. This meant they had the afternoon of the last day of qualifying to record a better score. They were cutting it way too close for my comfort level.

So the Eagles showed up at Apple Valley High School that day to find a number of teams already there preparing to get in their final qualification flights as well. Again, it was a gusty day, with winds between 5 and 15 mph, and rain clouds coming in from the

Southwest. The HCA students set up their rocket for one more flight to better their qualification score. From the calculations done before hand, they expected a score of 2, or thereabouts. Out to the launch pad they went. Finally, a good launch! All four booster engines light, the sustainer lights and both parachutes come out; let the timing commence! As soon as the 'chutes opened I knew the students were in for a hike because there was no way they were going to land on that little field. My immediate thought was I hope it doesn't sink too fast and get too "short" of a timing because the official timers will stop their watches when it goes out of sight not when it touches down.

Thankfully the winds moving the parts out of eyesight were also doing a bit of lifting and I stopped my watch at 61.78 seconds when I could no longer see it. I was pumped! All they had to do now was bring back the egg capsule with no broken eggs.

They would never have gotten their eggs back to Ted without Glenn Overby and his mastery of his double-poled rocket retrieving thingy. He was able to get the egg capsule out of the first tree with nary a scratch. Three of our team members then took this back for Ted and company to inspect the eggs as they were removed. No cracks or breaks, woo-hoo! Glenn, the other three team members and I moved over a house to the tree which held the sustainer and parachute. Glenn had just gotten the sustainer out of the second tree when the skies broke open and a deluge soaked us to the skin.

We quick ran for cover under the eaves of the house in which the tree still held our parachute and shock chord. We left them, as we needed to get back in time for other evening commitments.

Ted and "son of thumper" lent us great ground support that day. Mark Thell helped us in spotting and Ken Corey-Edstrom signed off on our paperwork.

All-in-all a great MASA teamwork experience. HCA's official score was 2.6 and they only have to re-attach the parachute and shock cord to the sustainer to be ready for finals.

As they prepare for finals they have repainted the rocket so it doesn't look quite so worn and abused. It is now primarily black with pink and green stars all over it. We're hoping that it will also be covered with sponsor's names and logos. This year the team is primarily focusing on getting their funding for this trip through business sponsors and private donations. They found out last year that there just isn't enough time between finding out that they were going and when they have to leave to do an effective fund raiser. They need to raise about $3000.00 to cover all the expenses of this trip for all eight students to go to Virginia. Any financial assistance that anyone gives will be extremely appreciated.

I'll write the "rest of the story" when we return from the TARC 2005 Finals.

Contest Corner

Official Results: MASA's Spring Meet

Weather: Cold and windy, at times bordering on unflyable.

Place*	Contestant	Flt 1	Flt 2	Total	NAR Pts
Open Spot Landing					
C Division					
1	Cochran, Ted	6.7			40
2	Lenz, Stuart	19.5			24
3	Nelson, Mark	36.8			16
4	Whitaker, David	37.5			8
Team Division					
-	Challenger	NEJ			0
1/2A Boost Glide(MASA Open Record: 27/-/-)					
C Division					
1	Cochran, Ted	53**	64	0*	
C Streamer Duration (MR) (MASA Open Record: -/-/-)					
C Division					
1	Nelson, Mark	35**	18	53	0*
Drag Race					
[no entries]					

*Insufficient entries to award points. Two qualified flights are required in each division.

**New MASA Open contest records.

See http://www.mn-rocketry.net/masa/opencontest.htm for details, and enter early and often: You need not fly a record attempt in a Section Meet to qualify.

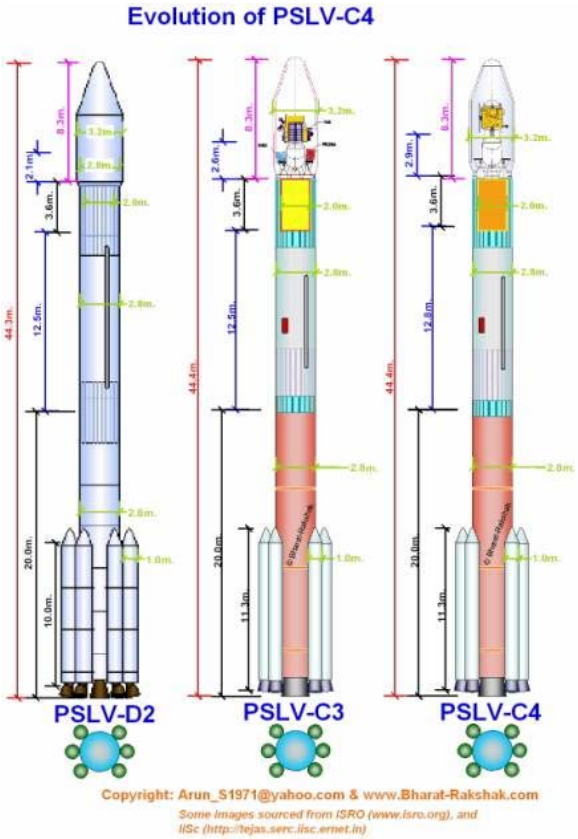
The *MASA Planet* is the official newsletter of the Minnesota Amateur Spacemodeler Association, Section 576 of the National Association of Rocketry. It is published bimonthly as a service to its members. MASA authors and photographers retain rights to their submissions, which are used by permission. The *Planet* is available in color on MASA's web site:

http://www.mn-rocketry.net/masa/

Submissions may be made to the editor at: masa.planet@mn-rocketry.net. (Volunteer quickly, lest you be assigned to chase duration contest gliders in 19 mph winds.)

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, old email address, and new address. We depend on email for communicating important information. When an email address starts "bouncing", we lose contact with you.

Web Gem



See: http://www.bharat-rakshak.com/MONITOR/ISSUE5-3/arun.html

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