MASA Planet

Volume 9, Issue 4 **Outreach!** **July 2006**

Safety First!

Grass Fires

Be prepared, just in case, heaven forbid!

Ted Cochran, NAR 69921

Model rockets can cause fires. There. I said it. It's true; it can happen. I've seen some little ones at North Branch, in years past, a bunch of little ones at LDRS in 1999, and NARAM-42 in Colorado, and a pretty big one at NARAM-47 in Ohio. I even had to use my fire extinguisher at a Cub Scout outreach launch last year, when a shorted igniter lit a plastic fin can on fire. We have to be prepared, just in case. Judging from the response I've seen to the events cited above, we often aren't. So, here are some tips:

- ***Be prepared***.
  - Clear dry grass from around the pads!
  - Have a phone available. Know the launch site address, just in case!
  - Have water available. ABC fire extinguishers are somewhat helpful, but water is best. Pressurized water extinguishers, manual pumps, or buckets of water are all better than your unaided stamping feet.
- ***Know what to do.***
  - If conditions require, make sure someone is watching the pad on every launch.

Fighting fires, continued on page 2

Also in This Issue

Kimball Finishes 22nd in TARC Finals

Bests three other Minnesota finalists

The Fourth Annual Team America Rocketry Challenge finals were held in Great Meadow, VA on May 20. The weather was wonderful--partly cloudy and a bit breezy, neither muggy nor overly warm. Four teams from Minnesota were finalists.

Cochran

Moonwalker Buzz Aldrin was a special guest.

The Aerospace Industries Association (AIA) and the NAR keep making this event better and better. The show began with the now-traditional singing of the *Star-Spangled Banner* ending with a flyover (this year by a pair of Marine Corps AV-8B Harriers) and a high power rocket salvo. A large number of exhibits attracted

TARC, continued on page 12

Cochran

Harriers make a (brief!) appearance.

Fighting fires, continued from page 1

- If a fire occurs, call the fire department unless you are absolutely, positively sure you can get the fire out. Grass fires can get out of control more quickly than you can imagine!
- Don't just dump out the water--spray it, splash it, fog it--a little goes a long way!
- Work the upwind edges of the fire, working downwind and pinching it off from the flanks.
- Use beaters, rakes, shovels, your feet, or even tall, green weeds to beat out the fire, and rake it from the combustible material toward the already burnt areas. The idea is to deprive the fire of new fuel, not attack the hot spots in the middle of the fire.

Remember, if you are at all in doubt, call the Fire Department. That's what they're there for, and they'd rather put out a little grass fire than a large field fire!

Notable Flights

Buzz McDermott

Joe Schneider after his successful Level I certification flight with his Thoy Wasp on an H165.

Full Scale

Delta IV Launches GOES-N

Asymmetric configuration works as planned

The 13th member of the fleet of Geostationary Operational Environmental Satellites, or GOES was launched on May 24th from Cape Canaveral's Launch Complex 37B. The 6900-pound payload reached its parking orbit in thirteen minutes.

The Delta 4, build by Boeing, used two ATK 60-inch diameter solid rocket booster motors in addition to its Rocketdyne RS-68 cryogenic first stage engine to get off the pad. The second stage contained a Pratt & Whitney RL-10B-2 cryogenic power plant.

GOES-N will be commissioned during June and should be available to help out during most of this year's hurricane season.

Credit: Ken Thornsley/NASA-KSC via Spaceflight Now

Delta 4 lofts 6,700 pounds to orbit.

MEETING SCHEDULE

SATURDAY, JULY 15
SUMMER PICNIC AND LAUNCH!
Location: VFW Park, Otsego.
Time: Picnic from 5 PM to dusk.
Door prizes! Food! Fun!

THURSDAY, AUGUST 3
Location: Science Museum of Minnesota
Time: 7 PM to 9 PM
Topic: tbd
Note: Classrooms 11 & 12.

THURSDAY, SEPTEMBER 7
Location: Science Museum of Minnesota
Time: 7 PM to 9 PM
Topic: "Basement Bounty" (A sequel to "Attic Treasures") Buzz McDermott and Russ Durkee
Note: Classrooms 11 & 12.

LAUNCH SCHEDULE

NOTE: TIMES AND LOCATIONS SUBJECT TO CHANGE!
CHECK THE WEB SITE FOR UPDATES

SATURDAY, JULY 15
SUMMER PICNIC AND LAUNCH!
Location: VFW Park, Otsego.
Time: Launch from 1 - 5 PM

SATURDAY, JULY 22
Location: Nowthen.
Time: 9 AM - 4 PM
Waiver: 5500 feet MSL (~4500 feet AGL)

SUNDAY, JULY 30 - FRIDAY, AUGUST 4
NARAM 48
Location: Rainbow Valley, Arizona
Info: www.naram.org

SATURDAY, AUGUST 26
Location: Nowthen.
Time: 9 AM - 4 PM
Waiver: 5500 feet MSL (~4500 feet AGL)

Cochran

Maranatha Christian Academy prepares to fly at TARC.

President's Corner

Summer Flying

Mike Erpelding

Now that summer has arrived, the flying season is in full swing. June is the first month in which we have hosted a two day weekend launch at the Nowthen launch site. Remember that our FAA waiver is for up to 5500 feet MSL (about 4500 feet AGL). We do have a special windows option for higher altitudes; if the flyers contacts me far enough in advance to give the FAA 60 days to approve a short flight window for that rocket. This launch site supports I motor flights and possibly low altitude J motor flights under the alternative launch site dimensions rule.

Special congratulations to Joe Schneider for successfully getting his level one HPR certification at the June 24th's launch!

I would like to thank everyone who helps set up and tear down the range at each launch. It makes things a whole lot easier. The wind was out of the SW when I arrived Saturday to setup the range. Consequently I setup on the south end of the field in case the launch would be cut short by rain. As the storm cell moved out of the area and the winds started shifting in all directions. By about 10 am the winds were mainly out of the north. With everyone helping out, it only took 22 minutes to relocate all the equipment to the other end of the field.

I'm working on putting a bid in for MASA, in partnership with TSM & MN Tripoli North, to host NARCON 2007. I would like to thank the MASA members who are already helping with this project. I would also welcome any other members who would like to help in some way.

NARAM 48 is coming up soon in Arizona. I wish any members attending good luck with their flights and have a safe trip.

The MASA picnic will be at the Elk River Rogers VFW field on Saturday, July 15. Look at the club's web site for more details.

Have a safe and fun flying season,

Mike Erpelding

MASA President

Outreach

Launch Fever: 25 Days of MASA Outreach

And these are just the ones we've heard of!

Spring brings flowers, showers, the end of the school year, and an annual rush of outreach events. This year was no exception, as MASA members scrambled to cover a variety of events. Some of their stories appear below. Thanks to everyone who helped all of the kids involved have a "Safe, Educational, and Fun" experience with rocketry. As some of the titles indicate, many of these outreach relationships have been going on for years!

12 May: Washington County 4H Aerospace Project (Part 1)

Ken Jarosch

I met the Washington Co. 4H group at the Baytown Community Center Friday evening of May 12th. I was requested to help them plan their Aerospace Project. I had offered many ideas by email.

They requested that I give a short talk on small model rockets and the safety code. They also wanted to see built rockets and separate parts. A launch demo was planned. Because of the rain the demo was rescheduled.

I covered a lot of basic territory of motors and support equipment as it pertains to a normal setup and the NAR Safety Code.

We went through the path to build rockets by kits and scratch built with commercial parts. I brought some junk yard rockets which one 4H leader recognized as a gift wrap tube and toilet paper tube fins. This was a big hit with the adults and the leaders. Another big hit were the Art Applewhite oddrocs especially the 13 mm freebie print outs on #110 cardstock. Of course the 4H Qubit got the preferred choice.

I dry-assembled an Estes E2X SkyWriter in less than 5 minutes to show how easy the E2X kits are for new rocketeers.

I set up the launch equipment to show how the rocket preparation is done, how the rocket launch sequence and flight sequence goes. The rocket on the pad was Paul's 1991 Gnome. Rain stopped the real time show. I used a Christmas tree bulb as a dummy igniter on the end of the 15' controller cord. This was also a big hit with the crowd.

I covered a lot of material in one hour. This was a great group to work with. They looked over all the small rockets and paper kits I brought.

Sean decided to offer several to their group to get an Aerospace Project going for the county fair. As a start they will build the Estes Gnomes and the Art Applewhite 4H Qubits.

We rescheduled the launch demo to follow the kit building on the 21st of May.

To help get them going I donated the standard Alpha III Starter kit and three E2X and one Level 1 kits. I offered to help at the build session. We also printed out extra paper kits. They should have enough to build if the interest is there. We'll see on the 21st.

15 May: Crestview Elementary School

Ken Jarosch, Paul Jarosch, and Art Gibbens

Today (May 15th) the rescheduled launch took place at Crestview Elementary School in Cottage Grove. Jessica Mace is the Math & Science teacher for the 50 Gifted and Talented students in the Rocketry event.

Paul and I arrived at 7:15 to check in and to be ready for the 8:15 start time. We asked the Principal where to set up. He put us in the corner ball diamond. Good thing we asked because the Phys-Ed teacher wasn't happy about our being there. A call back to the Principal solved that for the rest of the morning.

Paul quickly built 4 pvc launch pads last Thursday to compliment his 4 place controller. This worked very well for this type of launch.

We had Jessica Mace set up a table just outside the school as a prep area. I gave a demo with one of the rockets and then let the teacher and kids proceed. When they were done they came in teams to the flight line.

Paul had it roped off so we would have four teams ready and 4 teams waiting in line. The other teams remained by the prep table until one cycle moved forward.

We had 50 kids in 21 teams ready to launch today. As they checked in with me I would assign them pads 1 through 4. Those 4 teams went out to the pads where Paul showed them the procedure. They choose one member of each team to do the actual launch. So we had a steady stream of rocketeers in an orderly fashion of 4 teams per cycle.

The 21 teams built and flew the E2X Generic on A8-3's. There was quite a difference in motor performance. We had 2 shorted igniters which were fixed. One misfire and 3 separations with most of the others having a flight of 15 - 25 secs. We didn't lose a rocket.

Everyone enjoyed this launch. Jessica, Paul and I were pleased how well it all went. The Principal watched almost all of the flights and he seemed quick happy with the results.

A photographer for a local paper took many shots during the entire launch.

Paul and his equipment did the bulk of range work while I tried to coordinate the prep table, the flight line and final check in before Paul took the teams out to the pads. I also made notes on the flights and timed them. Results were put on a team listing sheet I asked Jessica to provide.

It went so well that Paul offered to do it again if Jessica and the school so wanted next year.

Sometimes things go just right. The actual launch didn't start until 8:45 and by 9:30 we pretty much had the launch complete. It took another 30-45 minutes to clean up and check out. We left around 10:15 or so.

When you do these projects you never know how they will turn out. I've had disasters and great events. This was one of the best thanks to Paul and Jessica. It works when the person/teacher etc. requesting the effort is a help and not a problem. Also when the kids really want to do this rather than a forced issue it shows at launch time. Here every rocket was counted down with the uh's & ah's.

That's why Paul offered to help again next year if they want a redo.

Art Gibbens part in this activity was to follow up on an e-mail request from Jessica to MASA web master Alan Estenson. Art responded to her e-mail and she replied directly to Art to set up a meeting time. At this initial meeting they talked about what she hoped to accomplish with this activity. They decided to get together again a week later to look over rocket options and verifying that there was enough money in the budget to accomplish the goals. At this next meeting Art brought some Estes and Quest catalogs donated by Hub Hobby for the students to have. They looked through them and she decided to go with the Estes generic E2X models so the students could decorate them any way they wanted.

There were 4 classes - third, fourth, fifth and sixth grade Gifted and Talented Math students teamed up to build these rockets.

So Art got Jessica a mail order form and a coupon to save her 40% on her purchase from Belleville Wholesale Hobby. The rockets and engines arrived in a timely manner and we got together one last time to go over building tips and tricks she could share with her students. She has been very grateful throughout this experience that someone would take the time after school to show her how to "get into rocketry".

She has promised Art pictures from the launch. As soon as he gets them he'll share them with MASA.

Here's the article on line:

http://www.swcbulletin.com/articles/index.cfm?id=4346&section=homepage

19 May: Hearty Homers 4-H Building Session and Launch

Caleb Boe, NAR 83769

On Friday, May 19, sixteen kids from the Hearty Homers 4-H club came to the Boe house to build rockets. We used the Custom Rockets *Freedom*. The group had a great time building their rockets. All kits and motors were provided by Boe's Heating, Air & Appliance Repair (my father's business). We had a contest for the coolest paint design, so everybody was excited about painting their rockets. Everybody took their finished rockets home and painted them.

On Wednesday May 24th we all launched our rockets. The Borner family (two of their kids were involved in the building session) hosted the launch on their field. Our neighbor (Kent Raymond) was the judge. After we set up the range we got rained on for a few minutes but it quickly passed over. My dad and I had built a four-pad launch rack which we used; we also set up my MASA style pad and my Estes pad. All rockets had to be inspected by me before they could be set up.

Photos by Boe

*Top: A fleet of new rockets ready to go; Middle: Caleb helps with prep; Bottom: "Safe, educational, and **fun**!"*

The first few flights landed in the tall grass to right of the field. All but one rocket was found.

We tilted the launch rods further into the wind and this helped greatly. After the wind died down most of the flights landed on the field. We had a four rocket drag race near the end of the launch. Only one rocket was lost and two rockets had separation. The nose on one of them was found.

To finish off the evening I launched a couple of my larger rockets. My intention was to leave an impression with the kids and to get them more excited about rocketry. I flew my Tres on 3 C6-5's and my Phoenix on an E15-4W. Everybody was very impressed with both. Then the winners were announced, Erin Bronson, Thomas Lankow, and Walter Gramer, as they won 1st, 2nd & 3rd place for coolest paint design. After the launch I had several kids coming up to me and asking me questions about rocketry, and were they could buy more rockets. I was very pleased to see kids get excited about rocketry. For many of them this was their first experience with rocketry. I had a lot of fun leading this and hope to do it every year.

20 May: Team America Rocketry Challenge Finals

Ted Cochran, Mike Erpelding, Amber Feeley, & Mark Nelson & Family

This event takes outreach to a whole different level! See the article that begins on page 1.

21 May: Washington County 4H Aerospace Project (Part 2)

Ken Jarosch

On May 21 I met with the Washington Co. 4H group at Baytown Community Center for the second part of the Aerospace project.

24 members signed up for the build today from 2:00 pm to 4:00 pm. They decided on the 4H paper Qubit on A10-PT's and the Gnome on 1/2A3-4T's.

Both take about 15 minutes but in a group that amounts to half hour each.

The build went very well although you can see a difference in skills at all ages. A lot has to do with paying attention to directions. We started 15 minutes late waiting for all of the group. They finished at

3:45 pm so the entire 2 rocket build and clean up took about 1-1/2 hours.

Most of these groups want to build rockets and have us help them launch with out a way to follow up. I usually provide an Alpha III Starter kit to allow the groups to continue after I leave.

They asked if they could fly the rockets today. 18 kids stayed for the after hours launch. I had them set up their new equipment in the lower parking lot. I used one of my Estes' setups for a 2 pad range. A couple of parents offered to help so I showed them the rocket prep for both rockets. This took the load off of me to run the range. I later had help with the hookups here too.

I had 18 kids and 2 rockets each. We started about 4:00 and finished about 4:45 pm.

First we flew the 4H Qubits and they went all over the place with the kids trying to catch them. All on their tiny lot. Most suburb homes have bigger lots.

Having seen the Qubits go from 60' to 100', I wanted to see their response with the Gnomes on 1/2A's. At first they were timid about counting down but by the second round all were counting out loud for the launch. All firings took place with out a misfire or a no-go. Only a few had separations. Someone must have forgotten to glue the upper lug and shock cord holders. A few streamers drifted away after pulling off.

Most of the Gnomes flew straight and true. Most landed within 150' or so. The 4H'ers seemed to have a fun time of it. This was to generate interest in a County Fair Exhibit.

24 May: Anwatin Middle School (Year III)

Ted Cochran and Mark Thell

May 24, from 2:00-3:45, Mark Thell and I helped with the third annual Anwatin Middle School launch at Bryn Mawr Meadows Park

About 50 teams of two or three eighth graders each flew Alphas in a duration contest using A8-3s. There were two divisions: One group was limited to stock rockets, and the other was free to make modifications. The winning flight was over 45 seconds on a homemade parachute!

Thanks to Mark Thell for his help with this launch!

Cochran

Anwatin Students prepare for flight at Bryn Mawr Spaceport.

25 May: Cub Scouts Pack 626 (Year III)

Ted Cochran and Mark Thell

Pack 626 readies a squadron of rockets in Long Lake Regional Park. Cochran

Cub Scout Pack 626 hosted MASA for the third year at Long Lake Regional Park. This is a good-sized group of kids, and they had about sixty rockets to launch: Mostly Generic E2Xs, but also some larger rockets including an egg lofter, a *Screamin' Mimi*, and a *Big Daddy* or two.

We set up at about 5:30 PM and launched until dusk. The wind was a bit brisk, and the field was a bit small, so lots of rockets found the small trees in the area. However, the Scout leaders had a retrieval pole, so few rockets were actually lost.

Other than the egg lofter (which never ejected), and the *Screamin' Mimi* (which was unsuccessfully "flown" on an E motor by an enthusiastic adult), most every rocket had a great flight, and the kids and parents really enjoyed the evening.

Mark and I finished the show with a few demonstration flights.

Thanks to Mark Thell for his help with this launch!

31 May: Nacal International School

Ken Jarosch and Mark Thell

This was the most unusual help project yet.

The students in this International School were from all over the globe --all Seniors at the HS level stationed in a rented section of Hamline University.

The teacher, Mr. D.J. Wyrtzen, had requested many field trips to be approved and all have been turned down because of liability factors. So when he asked for a rocket project he was surprised that it was approved.

However, everywhere he asked for the ok to fly turned him down. The St. Paul Fire Marshal flatly would not allow them to launch in St. Paul. When he called White Bear Lake parks to fly at Sunrise Middle School they told him they do not allow rocket flying there. He got permission to use Bossard Park if the White Bear Lake Police had an Officer in charge, but the officer never showed up.

They had rudimentary GSE, so Mark Thell put together a pad and controller for them. That and my Pro-pad with Estes Controller would solve that problem.

A more difficult issue was that we had 16 kids and one teacher with rockets that were scratch built, from a design that wasn't very flight-worthy. The basic design was 2 small milk bottles taped bottom to bottom, in almost a V2 style. They taped the motor into the bottom bottle.

The top bottle was intact with no motor opening. This framework was covered by cardboard with cardboard fins mounted mostly from mid body forward. The chute was attached to the end of cardboard. Some had nosecones and some didn't. They expected the chute to just fall out.

They arrived late because of traffic. The teacher requested I bring 5 or 6 of my Junk Yard Rockets for a field Show and Tell. This took about 15 minutes.

Mark showed several of his commercial kits and explained his donation of the GSE. I pre-scouted the

field for our setup. Hauling the GSE and setting it up took more time. Mark gave them a demo flight on an A8-3.

Then we got down to business of seeing what we could do to get their rockets launched. Each rocket needed some work.

For example, the teacher did put in a BT 20 tube as MASA people suggested, and the motor tube ran the full length of the double bottle. The chute was in the paper nose cone. The fins were far enough back on the bottle. So far, so good, but the motor tube was floating in the main body and the motor was loose in the motor tube.

We helped him reposition the motor tube and make engine thrust blocks and retention from tape. This took care of the fin can and motor mount. Now the cut motor tube had the second bottle free for wadding and chute. This left a free paper nose cone which we attached by 12" string by tapping it inside the NC and tying the other end to one shroud line. Now we finally had a real rocket. I had him put enough clay into the NC to balance about 1 caliber forward the front of the fins.

This must have taken close to an hour. While I was doing that all the 16 students kept asking us what to do. I told them what needed to be done and I asked the teacher to help them arrive at the same spot, but they needed more help than we could give.

One student kept asking me for help. I told him to cut the bottles open to redo the insides. Mark finally took him under his wing to patch the rocket. I didn't see what Mark did but it appears he rebuilt the rocket for him by adding fins to the motor mount and then tapping this assembling to the bottom bottle. This lengthened the rocket so no weight was needed. Just as well as he didn't have a NC anyway. Mark put in the same amount of time with this rebuild as I did with the teacher's rocket.

Results: Two rockets reached launch status.

The student with Mark's help launched on a C6-5 for a beautiful flight especially considering the start. The chute (bag) opened nicely drifted down by the soccer nets. He wanted to do it again so he had to unwind the tap to put in another motor. This flight angled to the south and had a late delay but the chute opened nicely to drift into a backyard. Mark got it for him later.

My teacher's rocket was overstable with maybe a little to much weight. We didn't have time to do more. It corkscrewed up and the chute opened fairly well.

The day was a lot of work with only 2 rockets and 3 flights. Each kid's rocket needed the parts and time Mark and I put into the 2 that did launch. Knowing that they were Foreign HS Seniors and not being able to put on a show like I've had with Scouts, 4H and other schools was a bit of a disappointment for all of us.

I wanted to personally thank Mark Thell for his great effort here. If Mark hadn't been there it would have been completely impossible.

Mark and I did our best but the overwhelming odds were against any large scale launch success.

1 June: Westwood Elementary School Build (Year VIII)

Ted Cochran, Todd Carpenter, Carol Marple, and Buzz McDermott

The Eighth Annual Westwood Elementary School outreach event was huge this year. All of the fourth graders in the district have been consolidated into Westwood, so we had seven classes of students to help. As usual, teams of two or three students built Generic E2X rockets. We divided the exercise into two separate sessions, and the building was done in about forty-five minutes per session. Approximately 85 rockets were built overall.

Thanks to Todd Carpenter, Carol Marple, and Buzz McDermott for helping out with the building session this year.

Carol Marple

5 June: Westwood Elementary School Launch (Year VIII)

Ted Cochran, Todd Carpenter, Carol Marple, Buzz McDermott, and Jeff Taylor

The morning of June 5 was beautiful! We started setting up about 45 minutes before the first group of kids was due out, and had plenty of time to get ready. As in the past, we set up 12 pads, spaced more than 50 feet from the area where the kids would be sitting. Ted had inspected the equipment the weekend before, and most of the alligator clips had been replaced with brand spanking new stainless steel clips for the occasion. Launch rods were rubbed down with steel wool, the batteries were charged, the PA system was checked out, and everything was ready to go.

Just as in the previous week, the launch was divided into two separate sections, with four classes in the first hour and three in the second. We started out with a very basic safety talk, and deputized all of the fourth graders as assistant RSOs, whose job it was to locate airplanes and confirm that the correct pad was armed (in Ted's GSE, each pad has a light that indicates when it is armed).

We set up several stations for the kids to go through: One for wadding, one for rocket inspection, another for motors, and finally, the launch pads. For the most part, we had the kids do their own preparation.

Also as in previous years, we ran an "A8-3 Generic E2X duration" contest, with the winning team getting medals from INSciTE (sponsors of Rocket League) and a share of the loot donated by Hub Hobby for this event. The best rocket on this day scored in the mid-thirty second range.

Taylor

Ted Cochran's venerable Silver Comet flies for the 60th time, this time at the Westwood outreach launch. It has flown on Cs through Fs over the past nine years.

Almost every rocket flew perfectly. There were a couple of separations, and one CATO (of an A8-3? Go figure!). Once the first group was done, the second group came out and we did the whole thing over again!

We heard from a parent that one of the earliest students to go through this program is now majoring in Aerospace Engineering at the University of Minnesota!

Thanks to Todd Carpenter, Carol Marple, Buzz McDermott and Jeff Taylor for their help!

Todd Carpenter

Students in three of the seven Westwood fourth-grade classes are installed as Deputy Range Safety Officers.

More Westwood Outreach Photos!

Who wants dog barf? Meeeeeeee!

Todd Carpenter observes final preparations.

Aaron, Mitchell, and Maggie's nicely decorated rocket.

Todd & Carol drag racing their Death Stars to oblivion.

Stuffed.

Thanks to Carol Marple and Jeff Taylor for the Westwood outreach photos here and on the back cover!

TARC, continued from page 1

crowds, including flight simulators, a portable ground stations, armored vehicles, a UAV, and a variety of DoD booths. A number of special guests, including Buzz Aldrin circulated, talking to the teams.

There was also a competition to complete! The competition was won by Statesville Christian School from Statesville, NC, with a perfect altitude of 800 and a time of 43.21 seconds. Their rocket landed in a tree, or the time would have been even closer to perfect!

From Minnesota, Team 4141, Kimball Area High School, mentored by MASA President Mike Erpelding, placed 22nd. They flew early in the day, and made 779 feet with a 42.6- second duration for a score of 23.4.

Last year's national champions, Dakota County 4-H, mentored by MASA member Mark Nelson, placed 28th. They also flew early in the day, and had calibrated their rocket for the breezy conditions, only to launch into an unexpected lull. As a result, their rocket didnít weathercock as much as they'd planned, and they flew a bit too high--to 829 feet. They also came down a little fast, scoring a duration of 42.2 seconds, for a final score of 31.8.

Apple Valley High School, mentored by Ted Cochran, launched later in the day. The rocket appeared to make a terrific flight; ejection was nominal--and then the rocket started going up higher! They'd managed to find a monster thermal. Their rocket floated up to 947 feet before landing almost two minutes later. It was the longest flight of the day.

Maranatha Christian Academy, Mentored by Buzz McDermott, unfortunately suffered a failed ignition on an outboard motor in their three-motor cluster. Their rocket pinwheeled right off the pad, and was disqualified.

All of the team members that I talked to want to go back. In that sense, this NAR program has been a huge success!

www.rocketcontest.org

Kimball shows off their tube-fin design.

www.rocketcontest.org

Dakota County 4-H.

www.rocketcontest.org

Maranatha Christian Academy with a nice cluster.

www.rocketcontest.org

Apple Valley had one of the largest teams attending.

Kit Review

Custom *Elite* Egg Lofter

Ken Jarosch

When I started to work with the TARC groups I decided to build several egg lofters to fly along. One of the first rockets I bought was the "Elite Egg Lofter" from Custom Rocket Company. It is almost the same size as my "Never Break II" from QCR built in 1992. The rocket is 15.37" long with the 18 mm body.

Kit weight is 0.8 oz. but finished it weighs 1.1 oz. Because of its light weight I thought I could use it as a "B" Egg lofter. Where the QCR rocket had a plastic Easter Egg Pod the Elite has a 6-1/4" long egg capsule. It has a gentle transition from the neck to the widest flat spot recessed for the ring. The actual nose cone part of the egg capsule is a long taper to the rounded tip of the nose--a nice aerodynamic shape. The capsule is held together for Show by a decorative capsule ring. This longer capsule results in a shorter body tube.

The fin edges are all curves with the trailing edge a spiral curve rounding to a common curve on the leading edge. Two launch lugs are mounted on standoffs from the body. This all makes for a streamline version of the QCR rocket. The recovery system is a 12" chute with light twisted cotton shroud lines. The shock cord is a thin 1/8" flat elastic 11" long.

It comes with instructions for building and for launching. Both are quite simple, but if you cut out the shock cord attachment in step 3 you cut out the words in step 7 so read ahead.

Some of the pros and cons below:

Pros

Good looks: With the curved fins and long nose capsule it has a nice shape to it.

Low cost: I paid $8.58 for it at Hub.

Low weight: A little over 1 oz.

Standoffs: Precut plywood mounts, ready to use.

Assembly: The capsule is easy to tape as it is somewhat stiff. Using the ring makes it easier to tape and provides for a better and stronger capsule alignment.

Cons

Egg capsule: While the egg capsule is great from the transition forward the neck is weak and badly formed. The eyelet was almost nonexistent. I had to cut back into the neck to actually make a really small opening. A better choice would be to epoxy a dowel inside the neck and tap a hole for a screw eye.

Body tube: Because the capsule is so long, the body tube is short leaving barely enough room for wadding, chute, shock cord and long capsule neck. Maybe adding a tube section would provide more space.

Chute: Only comes with 12" chute. No room for more. The shroud lines should be replaced with heavy button thread.

Shock Cord: The shock cord is only 11" long before installation and is a thin 1/8" elastic. I didn't expect it to last, and it didn't. With the current tube length there isn't room for a longer shock cord; it may be better to use an outside attachment like a contest rocket.

Flights

I first flew the Elite down in Apple Valley in April. With an egg and a C6-3 the rocket badly fishtailed to a low altitude. A very bad flight profile.

In March at Rockford we again tried the Elite, this time empty, on an A8-3. It had a great flight that went straight and true. In June at Nowthen I flew the Elite on a B6-2 with the 45 gram golf ball for a great flight profile. I then put in a 51 gram egg on a C6-3 motor. The rocket went through the same fishtail dance. At ejection the mass of the egg ripped the shock cord above the mount. That and several shroud lines were broken that resulted in a compound egg fracture. My early concerns were justified.

I need to fly the golf ball on a C6-3 and the egg on a B6-2 for a final comparison. I had this problem with the QCR "Never Break II". I thought it was the large weight difference from front to back on a small rocket. But the use of the 45g golf ball suggests the issue is one of a solid ball vs a fluid egg. Of course I used 2 different motors that complicated the comparison.

Anyway, it is a fair kit that needs upgrading. I will continue to test out the problem to see the exact cause. If the golf ball always works and a fresh egg does not than the next step is to try a hard boiled egg to see if that is the problem. Better buy more eggs!

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:

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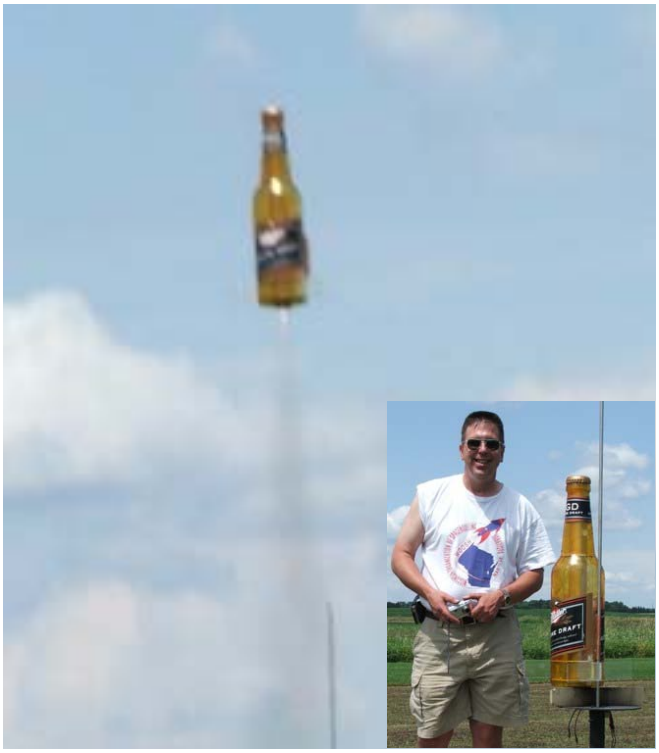
Notable Flights



Buzz McDermott

Mark Thell used an H242 to offer the rocket gods a drink at the June launch. His offering was accepted, but Mark didn't know the gods smash their empties!

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