The COS-Rocketeer

The Official Journal of the Colorado Springs Rocket Society (COSROCS)

NAR Section #515

2000 LAC Award Winner!

Volume 12, Issue 4 July/August 2001

Dave Virga with his Level 1 certification Black Brant II
(Photo by Nadine Kinney)

Inside this issue:

Space Fact: On July 20, 1976, the United State's Viking 1 landed on the surface of Mars. Viking 1 had reached Mars orbit June 19, 1976. Landing was planned for the US Bicentennial on July 4, but had been delayed until a suitable landing site was located. The lander touched down on the western slope of Chryse Planitia.

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Volume 12, Number 4
July/August 2001

The COS-Rocketeer is the official journal of the Colorado Springs Rocket Society (COSROCS), NAR section #515. This journal, published bi-monthly by members of COSROCS, serves to provide information on all aspects of rocketry. Articles, rocket plans, and photos are always welcome. Items for publication should be submitted to the editor:

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Material appearing in ***The COS-Rocketeer*** may be reprinted by *Sport Rocketry* magazine or other NAR section newsletters, as long as proper credit is given.

COSROCS' membership dues are $20.00 per year per family. Junior memberships (under age 18) cost $5.00 per year. Checks should be made payable to COSROCS. Applications and payment should be mailed to the following address:

COSROCS
P.O. Box 15896
Colorado Springs, CO 80935-5896

The COSROCS phone number is (719)575-0060

If you have access to the Internet, COSROCS has a web site and a listserv. The COSROCS web site is:
http://www.cosrocs.org.

The e-mail address for the listserv is cosrocs@egroups.com. To subscribe to the listserv, go to

http://www.egroups.com/subscribe/cosrocs

COSROCS is a family-oriented club. Everyone is always welcome at our launches and meetings. Please join us. You'll have a blast!

COSROCS received the NAR's LAC Award (Rockwell Trophy) in 2000 for having produced the best newsletter.

COSROCS Officers

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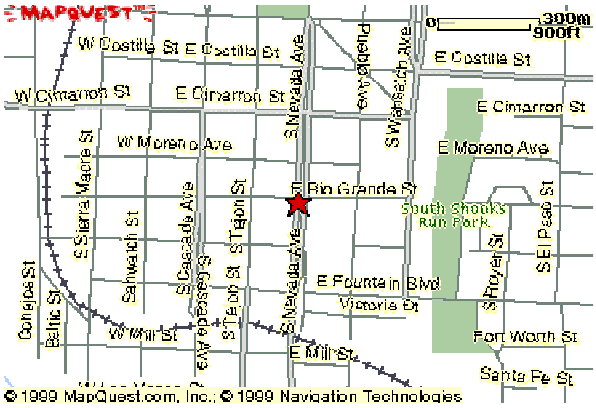
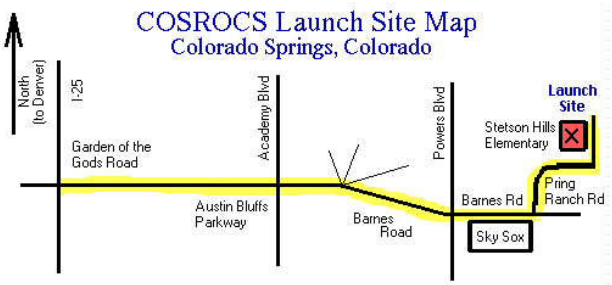
Launches and Meetings

COSROCS holds a business meeting on the second Wednesday of every month from 7:00PM until 9:00PM. The meeting location is the Gold Hills Police Station at 705 South Nevada Ave., Colorado Springs.



COSROCS holds a sport launch on the first Saturday of each month, weather permitting. The launch is held at the Stetson Hills Elementary School, located at 4910 Jedediah Smith Rd. in Colorado Springs. The launches begin at 9:00AM and last until approximately 12:00 noon. Our launches are free and open to the public. A one pound weight limit is imposed for rockets launched at Stetson Hills.



The Nagging Editor

By Greg Elder

I had many inputs for the newsletter this issue. My thanks to everyone who submitted material. I'm able to publish 12 pages every issue because of submissions like these. If you've never written an article, please consider doing so. All members probably have something they can share with our section—a launch report, review of a new kit you've built, plans for a rocket you've designed, tips about constructing or flying rockets, photos. You get the point.

With summer here, the flying season should be in full force. Fly 'em high, safe, and have fun!

Section News

Stetson Hills No More. It seems like the housing construction in the Stetson Hills area has won out. We will no longer be able to launch rockets there. If you have been by Stetson Hills Elementary school lately, you will have noticed houses going up right across the street from the school, with "No Trespassing" signs posted. Stetson Hills was a great site while it lasted. (See Dave's article for some great memories of Stetson Hills.) All of our launches will now be held at Cape Preble in Peyton. We are also still looking for a launch site closer to town, for flying the one pound and under rockets.

T-Shirts. Nadine was taking t-shirt orders at out last meeting. I'm not sure if you still have time to place an order. Call Nadine ASAP if you are interested. Otherwise, you may have to wait until next year to get a club t-shirt.

CSAS Launch/Pot-Luck. The First Annual Joint Colorado Springs Astronomical Society (CSAS) and COSROCS High Flight event will be Saturday, October 6, 2001. Time is the afternoon and evening at the Prebles. We will start with an afternoon rocket launch. Then, there will be a potluck supper with members of both clubs getting to mix and mingle. Later, there will a Star Party with large and larger telescopes. We still need to work out the details of a possible night Mod Roc launch so that none of the folks looking through the telescopes loose their night vision. Point of contact is Frank Bittinger (a member of both clubs). Members of CSAS and families are invited to bring and fly their rockets and members of COSROCS can bring telescopes too. My thanks to Pam in CSAS for taking the time to help work out the date.

May Cub Scout Launch

By Dave Virga

Cub Scout Pack 70, from the Black Forest, descended en masse on the COSROCS launch at the Preble Ranch on May 19th. Over thirty scouts participated, launching Vipers (Quest), Gnomes, X-Rays, Mach-12's, and Bull Pup 12D's (all Estes). Although weather shortened the day's activities, all scouts were able to launch their rockets once.

The club members' large model rocket flights were a huge hit with the scouts. Greg Simonsen's first flight of the day, which roared off the pad and quickly became nothing but a speck in the sky (est. 8,000 ft), set the excitement level on "high". Not even the rain could dampen the scouts' enthusiasm.

So, a big, heartfelt "Thank You" goes out to COSROCS and the Prebles from the Cub Scouts and families of Pack 70.

Brian Lee, Cubmaster
Lance Haverkamp, Pack Committee Chairman
Dave Virga, Rocketry Committee Chairman

NAME	ROCKET	MOTOR
Greg Elder	Kapa-7	F23-7
Greg Simonsen	Razor 1.5X	H45-15
James Watson	X-Ray	A10-3T
Travis Russell	X-Ray	A3-4T
Chandler Mathews	X-Ray	A10-3T
Taylor Pinto	X-Ray	A3-4T
John Greg	Mach 12	B6-4
Greg Simonsen	Fat Boy	G125-10
Cody Draeger	X-Ray	A3-4T
Morgan Pinto	Viper	A8-3
Kate Draeger	X-Ray	A3-4T
Oren Cope	Gnome	A3-4T
Dana Buehre	Viper	A8-3
Chris Smart	Viper	A8-3
Austin Barto	Viper	A8-3
Kyle Pflueger	Viper	A8-3
Elias Roa	Viper	A8-3
Brian Thayer	Robin	F62-7
Jeff Proffitt	Aereaux	F25-7W
Jacob DeMont	Bullpup	B6-4
Justin Jackson	Bullpup	B6-4
Eric Pickron	Bullpup	B6-4
Tim Bonvalet	Bullpup	B6-4
Matt Pickron	Venom	B6-4
Connie Pickron	Bullpup	B6-4
Jeff Coons	X-45	F23-4J
Jeff Coons	Lightning	D12-3
Dave Virga	Gone Gnome	A10-0T / A3-4T
Greg Simonsen	Bomarc	H180-S
Eric Haverkamp	Mach-12	B6-4
Ian Scheimann	Mach-12	B6-4
Ryan Edwards	Mach-12	B6-4
Emily Scheimann	Mach-12	B6-4
Alex Virga	Mach-12	B6-4
Amos Scheiman	Mini Naboo Fighter	A3-4T
Lance Haverkamp	Venom	A6-4
Charlie Wallace	X-Ray	A3-4T
Sam Wallace	X-Ray	A3-4T
Jeff Leger	X-Ray	A3-4T
Perry Erler	X-Ray	A3-4T
Teddy Erler	X-Ray	A3-4T
Jake Munson	Sizzler	1/2A3-4T
Blake Lee	Viper	A8-3
Drew Wehlage	Viper	A8-3
Alex Koscielniak	Viper	A8-3
Mike Vlalpando	Viper	A8-3
Curt Bricker	X-Ray	A3-4T
Christen Curlen	X-Ray	A3-4T
Joseph Smart	X-Ray	A3-4T
Andy Blazer	X-Ray	A3-4T
Allen Putnam	X-Ray	A3-4T
Allen Hunter	X-Ray	A3-4T
Nick Powell	X-Ray	A3-4T
Ian O'Brien	X-Ray	A3-4T
Morgan Pinto	Viper	C6-7
Drew Wehlage	Viper	B6-4

A Young Club, a New School

By David Nauer

Stetson Elementary was a relatively new school in School District 49 in the mid-1980's. Located in one of Colorado Springs newest developments, the expectations were for the city to expand and grow quickly in the area surrounding this school. However, the housing depression of 1986-87 essentially stopped the growth throughout the city, and the already pre-laid curbing never saw pavement and roads poured in the surrounding area.

Our first President, Randy Cohen, had two sons attending Stetson Elementary and knew the principle of the school. After some negotiations with the Stetson Elementary management and two demonstration launches, COSROCS obtained its first and oldest launch site.

This site saw the growth of the club from an initial six members to today's diverse and large membership. There are many stories about flights at Stetson, and some of the greatest accomplishments of the club were in the parking lot. The school featured a large expanse of fields to the west, north, and east, but had an established housing development essentially to the south arc of the site.

One of my favorite memories at Stetson was an early Pikes Peak or BLAST that featured a large hailstorm with over six inches of hail. Ed O'Neill of CRASH was out in the field retrieving a contest flight, and was caught trying to cross the stream along the western limit of the field. He was washed down the channel and grabbed a fallen log, holding on as the storm swept hail and debris past him. Ed managed to drag himself out of the new river, and found shelter under a house that was being built in the area. We managed to finish the contest after the hailstorm cleared and great flying weather formed, but competitors had to use caution as the hail made for slippery footing.

Despite the closeness of the Colorado Springs Airport, very few close calls were experienced in almost 12 years of flying at this site. The club had limited flights to under one pound when FAA regulations were better understood in the early life of the club, and with few exceptions the club restrained their launch activities to that limit but still had fun. This demonstrates the strength of the low power side of the hobby. Through use of the Hartsel launch site and various other sites where 3.3-pound rockets could be flown, club members were still flying higher power rockets while also enjoying the strange thrill of a 1/2A motor.

The first regional contest flown in Colorado in the 90's was Pikes Peak or BLAST IV, flown at the Hartsel site on one day, and flown at Stetson Elementary on the other day. This emphasized the differences of high and low power, but everyone enjoyed the two days of flying, and the contest was featured in the Tripoli and NAR National Newsletters of that time, and really was the first joint NAR/Tripoli event of it's type during the turmoil of those times. Hartsel featured F Payload Altitude and H Water lofting (one pound of water!)—each won by Tripoli Colorado members rather than COSROCS NAR competitors! And F Payload was an actual NAR "Pink Book" event! And perhaps most interesting of all, several of the hard-core Tripoli members attended the Stetson Elementary site where the low power contest events were flown and actually competed in a few of the events. What a great memory!

One of the greatest events at Stetson has been our annual Boy Scout launch in May, an opportunity to share Stetson with worthwhile community efforts. The annual event evolved as different troops attended and competed against each other with events like "Gnome duration" and "C Omloid Duration". Often we flew over 200 flights in a 4-hour time window using many of the clubs organizational skills to pull it off.

Over the years we have awarded the Stetson Elementary Principle with plaques and thank-you notes for the community service provided by use of their parking lot. The opportunity to have Boy Scout launches, contests, and sport activities in a safe environment has been beneficial to the entire City.

I personally have many fond memories of Stetson launches, wild flights, and fun events. I will miss launching there—and a piece of this club's history has now been turned to another page.

Pueblo Rocket Club

By Warren Layfield

The Pueblo Rocket club is up and running now. They have 5 adults and about 25 kids in the club. They have their launches on the third Saturday of the month at the airport. As of June 16th they will move to a new site.

The Pueblo Weisbrod Aircraft Museum will have their Grand Opening in September of their new 30,000 square feet hanger for display of aircraft and model Rockets for the general public.

The Pueblo Club would like our club and Denver to come down on their launch in July for their Space Day and celebrate the 32nd Anniversary of the Apollo moon Landing. More information forth coming.

The Aircraft Museum is also requesting us to build some model rockets for display. Estes will donate the kits.

Pueblo Club Scheduled Launches:

- June 16
- July 21, Space Day Celebration of Apollo 11 moon landing
- August 18th
- September 15th
- October 20th
- November 17th
- December 15th

Monocopter C6 MC II Review

By Jon Hodge

The March/April 2001 issue of *Sport Rocketry* features a one-page plan to build a Monocopter designed by Joseph Peklicz. I had already heard of Joseph Peklicz because Greg Elder had previously published reviews of some of Joseph's kits. I was intrigued by the design and having never seen a monocopter I had to study the plans carefully to understand what the finished project should look like.

I was a bit intimidated because I'd never built a rocket from a one page set of plans without having some idea what the finished product would look like. I decided the easiest place to start would be in obtaining the materials. The materials needed to build the monocopter are as follows: (1) 3" length of BT-20, (1) Yankee type nose cone, (1) 12" x 12" sheet of card stock to laminate the rotor and the balsa Block, (1) 1/2" section of launch lug - optional, (2) 9.5" lengths of 1/8" dowel Rods, (1) 1/2" x 2" x 2" piece of balsa block, and (1) 11" long x 2" wide sheet of 1/16" balsa.

I have a few spare nose cones and body tubes laying around but unfortunately did not have any BT-20 or nose cones to fit. I decided to purchase an Estes Yankee kit for around $6.00 and that purchase gave me the nose cone, the body tube and launch lug. I purchased a 2 x 2 x 12 length of balsa block for the rotor mount and found the balsa for the rotor, along with the dowel in my parts box. The last piece needed was some card stock. I picked up a 12" x 12" sheet at a local rubber stamp store. I found out that you can buy it in 8.5 x 11 sheets as well, but chose to go with the larger size.

Construction was fairly straightforward with only a few moments of head scratching. My biggest problem was in figuring out how to make a 1/16" saw kerf in the rotor mount. I won't embarrass myself by describing the things I tried before getting it right. The answer for me was to set my scroll saw table at an 11degree angle and make the cut as described on the plans. I then moved the block slightly to one side and made the kerf a little wider because my thickest scroll saw blade only makes a 1/32" kerf. This produced perfect results for me.

Another problem I encountered was drilling the pilot holes for the dowel rods. I don't have a drill press or a level on my handheld drill, so I just had to do the best I could at getting the holes straight. It wasn't as hard as I thought it would be. I marked 1/2" from the end on both of my dowels and glued them up to the mark in the rotor mount. One other hole is drilled in the center of the 2 x 2 side of the block. This hole is for the launch lug and goes all the way through the block. I reinforced mine with a small section of the launch lug included in the Yankee kit.

With the slot in the rotor mount, I cut my rotor to size and slid it in place with some wood glue. I then wrapped a burnt Estes C-6 motor with some sand paper and sanded a groove for the engine pod on the opposite side of the block from the rotor. This groove needs to be at an 11degree angle opposite that of the rotor angle. This was difficult to judge but by cutting a small starter groove with the scroll saw, the finished groove wasn't too far off.

I inserted an engine block in the body tube to allow for a 1/4" overhang of the motor. I attached the nose cone to the body tube with CA being careful to glue to the proper end of the body tube. I then glued the body tube to the rotor mount. The only thing left to do was laminate the rotor top and bottom with card stock cut to fit. There was an addendum to these plans in the May/June issue of Sport Rocketry that said to laminate the top of the rotor mount with card stock as well. This model is designed to rest on top of the launch rod. It should not sink to the blast plate like other models. A sheet of card stock cut to fit, will cover the launch lug hole on top and ensure proper positioning on the rod. The plan also mentioned 4 optional port holes on the body tube near the nose cone. * THESE ARE NOT OPTIONAL.* I found out the hard way. More about that in a minute. Letting the glue dry overnight it was time to fly.

I snipped off a 3" piece of launch rod, because a longer rod would probably develop quite a bit of rod-whip. I anchored the launch pad to the ground with pieces of a clothes hanger and wrapped the ignition lead wires to one leg of the launch pad so it wouldn't be pulled by the spinning craft at take off. I inserted a C6-5 into the body tube and taped the overhang to the body tube. With my brother standing by to watch I began the countdown. Most small minimum diameter "3 fins and a nose cone" rockets would be out of site in a heartbeat on a C6. Not so with the monocopter. It was very noisy, sounding like a covey of quail being scared into flight. It rose about 20 or 25 feet into the air and then angled off toward the ground. It was still spinning fast when it hit the ground.

Finally, here's the damage report. The ejection charge, having nowhere to go, broke the tape and popped the engine out, and threw the nose cone about 20 feet from where the copter landed. The spinning action broke both of the dowels. Repairing it was easy. I recovered the nosecone and glued it back on. I drilled the NOT OPTIONAL port holes listed as Optional in the plans, and attached new dowels where the old ones had broken. It's ready to fly again. In spite of the damage it was an awesome flight and I look forward to flying it again with a crowd present to observe. Maybe if enough COSROCS members try this, we can have a drag race.

CARCIS IX Observations

By David Nauer

CRASH hosted their 9th spring contest at their regular launch site at Bear Creek Park, but the event was plagued by windy and cold weather from the start. Despite the weather there was a sizable turnout of contestants and sport fliers. The contest was to be held in a two-day format but was delayed after high winds prevented flights much past 10:30 on the first day. This article will not summarize the results of the launch (see CRASH's web site for those details!), but rather reviews some observations about sport and contest flying.

Over the past 13 years I've developed strong friendships with many in CRASH, starting with an early CARCIS in 1989, which was my first contest. I was thrilled to place third in "D" Streamer duration with my Estes Goblin on a D12-7 in that contest, but didn't do too well in the remainder of the events. Over time, I refined contest-building skills to advance to national competitiveness – but look fondly on CARCIS as a starting point for myself in this intense and challenging branch of the model rocket hobby.

This contest brought back some of those thoughts as many who did decide to try and fly struggled against the elements. Those that are interested in trying contests should set their sights on building reliable entries that will successfully fly. When you can enter an event and overcome typical failures (separations, failed recovery systems, unstable flights, etc) you probably have developed building habits and designs which will serve you well as you begin to refine your designs and skills.

The key to competition for me is not to beat your fellow competitor, but rather to better your previous records or see how long you can fly an original design. I have an egglofter I fly at almost every CRASH and COSROCS contest which I first flew at NARAM-34 in C Egglofting Altitude, taking first place. Since then I've won two other Egglofting events with this model, and to date have qualified in every contest where it has flown. Sure, it is fun to win a trophy or ribbon, and to place at the national level is really sweet. But I find the most fun in either bettering a design, or using these old designs and winning the event of the moment with them.

I didn't fare well at this CARCIS, partly because I only flew one attempt in a handful of the events. I didn't attend the rescheduled day, so really flew a small number of rockets. However, getting another qualified flight in my greatest nemesis—boost glider competition – proved the value of the Deltie!

I've noticed a gradual drift away from competition in our club, while CRASH continues to strengthen their interest (and success) in the regional and national levels. I encourage you to try the competitive side of the hobby – the skills you'll gain to build truly competitive rockets are useful in all aspects of the hobby, even high power. If you want some hints or help, give me a call at 719-487-8737.

In a previous edition of the COS-Rocketeer I discussed the Pikes Peak or BLAST XII contest events. We even have two fun events. I will have prizes and will be awarding our new ribbons with COSROCS' new logo to the top four places – and some of our nicer prizes will go to the "fun event" winners! Hope to see you there or at the next contest!

Fly High, Fly Safe.

For a Limited Time, Foundation to Match Donations

The Liberty Haven Foundation, a philanthropic institution established to promote the exercise and appreciation of individual human rights and liberties, has offered a grant worth up to $3,000 to the National Association of Rocketry, to be applied towards our litigation with the Bureau of Alcohol, Tobacco, and Firearms.

The terms of the grant are as follows:

1. The grant will be awarded on the basis of "matching funds" for donations received from other individuals towards the NAR's BATF Legal Defense Fund.
2. To be eligible for matching funds, donations must be made between June 15 and August 15, 2001, and must each be for a minimum of $100. These donations will be matched dollar for dollar up to an aggregate limit of $3,000. This offer is not applicable to previous donations.
3. Although donors are encouraged to take advantage of donation-matching programs offered by employers or other organizations, only the original donation will be matched by Liberty Haven. For example, a donation of $200, which is matched by an employer with another $200, will also be matched with $200 by Liberty Haven Foundation, resulting in a $600 total donation to the NAR's legal fund.
4. The offer is open to donations made on the web, via US mail, or by phone to the NAR at (800) 262-4872. The donor must indicate in some manner that he or she wishes to take advantage of the Liberty Haven Foundation matching offer.

This is an excellent way to get the most mileage out of your hard-earned donations towards our lawsuit to ensure reasonable, common-sense rocketry guidelines. Please take advantage of this generous limited-time offer by contributing now to our Legal Defense Fund.

NAR National Sport Launch 2001 Pony Express Test Range, Tooele, UT

By David Virga

I had the great fortune to be able to attend this year's National Sport Launch, the annual NAR sponsored fun fly. This year it was hosted by the Utah Rocket Club (UROC) and held at their Pony Express Test Range site, which is located about 30 miles west of Lehi, between Provo and Salt Lake City. My wife and 9-year old son came along, and my father drove out from California as well. This was my first big rocket meet, and I thoroughly enjoyed this Memorial Day weekend event.

The flying conditions were pretty consistent over the three days—warm, breezy, dry and dusty, with occasional dust devils and afternoon overcast; a slightly challenging mix, but we all persevered and had loads of fun! Here are some statistics:

- 149 flyers
- 595 flights
- 648 motors
- 111,743.35 Ns
- 12 Level 1 certifications
- 9 Level 2 certifications
- 3 Level 3 certifications
- Largest motor: M1315
- Smallest motor: 1/4A3
- Most-used motor: C (139)

The variety of rockets was absolutely astounding! The three Level 3 flights included a full-scale Russian GIRD-X, built and flown by Steve LaCroix, as well as two scratch-built projects by Dennis McNally (J-Faye 2) and Bob Hart (Martian Madness).

The large M-powered rockets were obviously very impressive, but I also enjoyed many of the smaller ones as well. There were several wonderful boost glider flights, using Edmonds kits, as well as an Estes F-14 Tomcat and a couple of old Centuri Mach-10 "tributes". One person also flew an Estes CATO several times, and the Launch Control Officer managed to sound surprised each time, as it disintegrated 75 feet off of the ground.

The level of craftsmanship was very high. There were a number of scale models that were just stunning!

Here are some of my family's highlights:

I flew my Cosmodrome Black Brant II Saturday morning on a G33-7J—its initial flight. I knew the delay was long; it was a good test of the zipperless deployment that I added to the kit. A good nail-biter flight, as the rocket was rapidly falling before the parachute deployed! My son Alex made a few flights with his Estes Wildfire, Venom and Quest Nike-K, all perfect.

Saturday afternoon, I certified Level 1 with the BBII on an H180W-M donated by Rocket Motion. Sure I'm biased, but it was the most majestic flight I've ever seen! Perfect flight, perfect deployment, unscathed recovery.

On Sunday, I flew my yellow & red Aerotech Initiator on a G64-7W; very nice flight, very long walk to recover. I also flew my Mardi Gras colored Rocket Vision Solar Venture on an E18-7W. Glad I used tracking powder on this one; and no more will I use that tiny white chute! I finally found it after much searching, though missing its nose cone.

On Monday, I flew the BBII again, this time on an H238-M. Blue Thunder. The quintessential Bat Out of H(ahem...) flight. The LCO even muttered a "wow..." I flew the Initiator again, on an F40-4W. And someone found and returned my Solar Venture nose cone! Alex flew an Estes Gemini DC, which he prepped completely by himself; it flew perfectly, including instantaneous deployment of both parachutes - great job!

All in all, it was a very memorable trip! Thanks to Neil Kinney for observing my level 1 flight, and to all COSROCS members who have given us tons of support.

Pikes Peak or BLAST XII Rescheduled

By David Nauer

This year's Pikes Peak or BLAST was cancelled and moved into "next year's contest year"—July 14-15, 2001. This means the flight results won't count toward NARAM 43 results; rather, this means our rescheduled contest will be in the 2001-2002-contest year and count for points towards NARAM 44. Also, we had to move the site from our now abandoned Stetson Elementary location to Preble's Ranch. We will fly altitude on Saturday only and have the Plastic Model Conversion entries turned in on Saturday for judging, and returned on Sunday for flying. Also, random duration creates a special problem in that we should be flying this event only on the day the target duration is determined – I have chosen Saturday – so random duration can only be flown on Saturday. The events of this contest make it difficult to accommodate single day fliers, but I will work with any contestant who cannot make it on either Saturday or Sunday as best as I can. For example, if there is a need we can investigate flying altitude on Sunday – but right now I have no plans for setting up the trackers on both days. I will also work with PMC competitors if they can only make Saturday. Otherwise, any event can be flown

on either day – and we plan on flying from 9AM to 3PM on Saturday, and from 9AM to 1:30PM on Sunday.

The events will be:

C Eggloft Altitude (Saturday) (18WF)
Plastic Model Conversion (26WF)
Random Duration (WF10) (Saturday only)
A Boost Glider Duration (WF18)
A Streamer Duration (WF8)

Fun Events

Fun events are often overlooked by the hard core competitor (although NAR National Champion Bruce Markielewski took COSROCS' last fun event, Micro Max Duration, very seriously and won the event handily). The fun event is intended to offer a unique twist to the contest, and these events count as much towards the COSROCS championship as the standard NAR events. Fun events include:

4X 1/2 A cluster duration (WF15)
B Paper airplane duration (WF15)

Hope to see you there!!!

LOC/Precision Introduces New Kit—Cyclotron

Owner Barry Lynch of LOC/Precision has introduced a new rocket kit to his company's product line. The Cyclotron is a nifty tube fin rocket that will fly on a wide range of F through I impulse motors. The kit features a 32-inch section of LOC 3-inch airframe, transitioning to an additional 10-inch payload section of 2.14-inch LOC airframe. The Cyclotron comes equipped with a 38mm motor mount tube as standard, and the LOC MMA-2 38mm-29mm adapter is also included. The complete kit weighs in at approximately 35 ounces, and stands approximately 65.57 inches tall. The price of the Cyclotron is $75.00, and can be ordered from your nearest authorized LOC/Precision dealer, or directly from LOC/Precision at www.locprecision.com, or via telephone at (440) 546-0413.

Thunder in the Desert (Or How My V-2 Almost Bought the Farm)

By Greg Elder

The Spaceport Model Rocket Association has sponsored Thunder in the Desert for the past 10 years. This is a regional sport launch held during Father's Day weekend in Alamogordo, NM. I decided to attend this year. I'm originally from El Paso, TX and planned to take a short vacation to visit my parents in El Paso. Since El Paso is about 2 hours from Alamogordo, I could drive to the event from my parents' home. (This would also be the first time I would be able to spend Father's Day with my dad since I left home about 26 years ago for college.)

I did not want to load my car down with too many rockets, so I selected four to bring with me—the largest being my Mountainside Hobbies 4" V-2, one of my favorites. I also brought just the minimal supplies (motors, parachutes, etc.) that I would need. Late Thursday morning, my youngest son and I left for El Paso. We arrived early that evening.

One of my brothers who still lives in El Paso decided to attend the launch with me. We left El Paso Saturday morning and arrived at the Alamogordo launch site around 9AM. The launch site is located in a desolate part of the NM desert. The first thing I noticed when I got out of the car was the heat. It was hot! (I'm no longer used to the desert heat since living in Colorado.) The second thing I noticed was that very few rockets were being flown. There were about 40 cars in the parking lot and many people sitting around, but I only saw one rocket being placed on a pad (and about 20 empty launch pads). After I paid my registration fee, I decided to fly the V-2.

I had brought an H180 to use with the V-2. After I started to build the motor, I realized I had brought the wrong RMS casing. I had the 29/180 casing but required the 29/240 for this motor. (You should always double check things before leaving for a launch.) Fortunately, a vendor (ODI) was on-site and I bought an H238-M motor to use. Once I had assembled the motor and prepped the V-2, I took it out to pad 61.

At ignition, the V-2 quickly jumped off the pad. It had a nice, straight boost. After reaching apogee, it arched over and began heading down, and down, and down. Just when I thought it would lawn dart, to my relief, the ejection charge fired. Unfortunately, the recovery system failed—the nose cone, parachute, and body all separated from one another. I knew the V-2 had seen it's final flight.

Two kids helped my brother and me search for the remains of the rocket. After about 30 minutes, I some how came across the nose cone buried halfway in the ground. Except for scratched paint and the loosened nose weight, it was fine. I also saw the reason for the recovery failure—the plastic eye loop had broken off. We continued to search for the body but gave up after another 30 minutes. When I returned to the launch area, I learned that one of the kids had found the parachute. Now if I could only find the body—it had the motor casing in it.

In the meantime, I launched a couple more rockets (Sputnik on a D12-3 and Styro-F.O. on a D12-5). These were two rockets I knew I would not lose. I also watched some of the other flights—model rockets on 1/4A's through D's and a large rocket on a K550.

In the afternoon, I told my brother that I would like to look for the V-2 body again. We headed out in the desert and after 20 minutes my brother found the body in some large sagebrush. (My V-2 has a camouflage paint scheme, making it hard to see in the desert.) The motor casing was still in the rocket, and to my surprise, the only damage was to the launch lug—it was crushed at the top. The V-2 should fly again some day!

I enjoyed watching other flights during the afternoon. Most were model rockets but there were a couple of high-powered flights—a J350 and J415. One person from Tucson had an upscale A.R.V. Condor that he flew on a G64. The flight was great and the two large gliders circled one another as they returned. My last flight of the day was my upscale Astron Cobra on a cluster of three D12's. It had a nominal flight and recovery.

A night launch was scheduled for the evening but I decided to leave for El Paso around 3 PM. Even though I just attended only one day at Thunder in the Desert, I had a good time. If you like flying rockets, this would be a launch for you, as there was never a line for the pads. I'd like to attend again some time and stay for the entire weekend.

NAR Certifies Redline Motors

The following motors have been certified by NAR Standards & Testing for general use as high power rocket motors effective June 4, 2001. They will not be certified for NAR contest use as they are not model rocket motors.

The following are Aerotech reloadable motors, certified only with the indicated size casing and manufacturer supplied nozzle, end

closures, delays, and propellant slugs. All use the new "Redline" propellant.

Aerotech: 29mm x 333mm (RMS-29/360 casing):

H268R-10,14,P (320.0 Newton-seconds total impulse, 357.5 grams propellant mass)

38mm x 250mm (RMS-38/480 casing):

I285R-10,14,P (420.0 Newton-seconds total impulse, 458.6 grams propellant mass)

The following is an Aerotech single-use (disposable) high power rocket motor:

54mm x 235mm

I65W-P (640.0 Newton-seconds total impulse, 369.7 grams propellant mass)

Trailblazer "Spaceport"

By Colonel Norm Black, USAF

After a one week delay due to a spring snow storm, the students and staff of Trailblazer Elementary in Colorado Springs, CO, were treated to a demonstration of model rocketry by members of the Colorado Springs Rocket Society (COSROCS). The flight demonstration was a key part of the school's participation in this year's Space Day celebration and for most of the students and staff, their first exposure to the excitement and just pure fun of model rocketry.

The morning of 10 May began with a brief description by the president of COSROCS, Neil Kinney, of the different types and classes of model rockets and safety procedures for the day's event. The honor of launching the first rocket went to the principal of Trailblazer Elementary, Ms. Kathy Griego. She launched a single stage rocket—Joe Miller's Long Shot. Soon other teachers and yours truly, found themselves in the spotlight taking control of launching other rockets that ranged from multistage to rotor return vehicles.

To cap off the morning for the 400+ students and school staff; one of the kindergarten students was given the opportunity to launch Greg Sandras' Aerotech G-Force using a G64-4. The G-Force had an early deployment (300 ft. AGL). The parachute opened with the rocket 20 ft. above the ground and landed 10 ft. behind the very excited kids! With many of the students with hands over their ears, Greg's NCR Patriot using an H128-S roared into the skies above the school's sports field. All present watched with excitement as the chute deployed at an altitude of approximately 2000 ft and track the vehicle's safe returned to Earth.

The outstanding model rocket launch demonstration by members of COSROCS, was the highlight of Space Day 2001. The students in grades K-2 also built and launched "Pop" rockets as part of Space Day activities. Plans for next year are already being formulated to have some of the 4th and 5th grade students assemble their own model rockets during next year's Space Day observance. Having COSROCS return to the school is being planned to help the students with the launching of their rockets.

I am a firm believer in activities like this, put on by local model rocket clubs. Their efforts can only help to keep alive the excitement for science and space exploration in the next generation. I strongly encourage other clubs to get involved with their local schools. The rewards for getting involved are limitless.

Students at Trailblazer School watch Greg Sandra's G-Force
(Photo by Laurie Black)

Aerospace Specialty Products Kappa 7-1

By Greg Elder

The Kappa 7 was a Japanese single-stage sounding rocket, also intended as a booster for the Kappa 8 and Kappa 9 rockets. Only one flight was made of the Kappa 7 in 1959. It proved to be unsuitable as a single launch vehicle. It was later used in its booster role.

Aerospace Specialty Products (ASP) sells a scale, large model rocket version of the Kappa 7-1. ASP's Kappa 7-1 has a diameter of 2.65" and stands 52.4" tall. It flies on F and G motors. The kit contains the following parts: a white, thick-walled body tube, 29mm motor tube, 3 plywood centering rings, 4 laser-cut plywood fins, fiberglass cloth, recovery system, and a vinyl decal. Also included are 8 pages of easy-to-follow, clearly illustrated instructions. The instructions list the tools needed for construction and describes the different types of glues that may be used.

Building the Kappa 7-1 is fairly easy and straightforward. However, you should have experience with building a few model rockets before tackling this. The initial step involves wrapping the supplied marking guide around the bottom of the body tube and marking the fin slots. Next, you need to use a sharp knife to cut out the fin slots. For the motor mount, two of the plywood centering rings are glued near the top and lower 1/3 of the motor tube. Two small holes need to be drilled into the top centering ring. A wire cable (part of the shock cord system) is looped through the holes and a metal sleeve is then crimped onto the cable. At the free end of the cable, another loop is formed and crimped into place with another sleeve. (This is the same type of shock cord system as used in the North Coast Rocketry kits, for those of you familiar with the old NCR products.) Finally, the motor mount assembly is glued into the body tube, such that the bottom centering ring is just above the slots in the body tube.

Next, the plywood fins are glued through the body tube slots to the motor tube. The top of the fin tabs butt up against the lower centering ring. For additional strength, glue fillets can be applied between the fin/motor tube and fin/body tube joints. When the fins

have dried, the third centering ring is glued over the motor tube and butted against the rear of the fin tabs. Two 1/4" diameter launch lugs are glued to the side of the body tube, space between 2 of the fins and about 28" apart from one another.

I was impressed with the large, pointed balsa nose cone that came with the kit. Normally, I would have expected a balsa cone of this size to have a few dents or blemishes. This one was about perfect in appearance. A large screw eye is provided to glue into the bottom of the nose cone. To protect the sharp point of the nose, the fiberglass cloth may be epoxied to the tip. (The instructions state that you could even use a finishing epoxy over the entire nose cone.)

To finish the recovery system, one end of a wide elastic shock cord is tied to the free end of the wire cable, while the other end of the shock cord is attached to the screw eye in the nose cone. A 30" parachute, supplied with the kit, is tied to the shock cord.

The instructions provide a painting diagram for the Kappa 7-1. After sealing the fins and nose cone, and sanding my Kappa 7-1, I painted the overall body a light pewter color. (I did not have a can of silver paint, the recommended color.) The nose cone and upper 4" of the body tube were painted a bright florescent orange. Lastly, I applied a "K – 7 – 1" decal halfway down the body.

For the maiden flight of my Kappa 7-1, I used an Econojet F23-4 motor. The rocket put in a flawless flight—straight boost, nominal recovery, and no damage upon landing.

The ASP Kappa 7-1 is a great kit for anyone making the transition from small model rockets to the larger, mid-power rockets. You can learn and hone those skills required for building the larger birds. In addition, the Kappa 7-1 makes a nice first scale model. It is easy to build and the paint scheme is very simple. The kit sells for $45.00 and is available from ASP at the following address:

Aerospace Specialty Products
P.O. Box 1408
Gibsonton, FL 33534

www.asp-rocketry.com

Springfest 2001
El Dorado Dry Lake Bed, Las Vegas, Nevada

By Nadine Kinney

Neil and I started our trip a day before the launch was to begin. We left our house, to only get less than a half-a-mile, when we were involved in a car accident. (It totaled the rental van, but we were both okay). We got another van the next day (thank goodness for the extra insurance they offered!), and arrived in Las Vegas on Friday night. We met up with Mark James (another COSROCS member) and he filled us in on the day's events. We found out, that due to weather conditions the range was not open very long, and they ended up moving most of the range. The lake bed was very mushy and wet because of recent rains on the lake bed, and due to the windy conditions, the water was being pushed around and kept creeping into the tent areas. We were excited to be there, despite the delays we encountered, as Neil was going to attempt his Level 3 in an 11-ft Sandhawk.

On Saturday, again the launch was delayed in the morning, due to the winds. However, we saw several launches from Estes rockets to the G and H motors. As the day progressed, the weather cooperated a little better. It became very nice and sunny, with very little wind. I set up a group photo after lunchtime, and to my surprise—there must have been 200 flyers! Throughout the whole day, there must have been about 200+ flights, including many larger projects that flew on M-motors. We saw many kits and several scratch built rockets as well. One of the rockets we saw was a 5-liter beer keg that Ed Wilk had converted into a rocket! It flew on an H-180 and weighed 4.5lbs. I never thought that thing would fly so well! Additionally, another crowd pleaser was flown by the Gates brothers. Dirk and Erik came to the field with their rocket named "Athos". It was 12ft tall and had a 7.5" diameter airframe. It flew on a central M-1315W, with 6 outboard J-570's that air started in pairs at 8, 11 and 14 seconds into the flight. The rocket had an awesome paint job and flew without a hitch!

Another interesting flight was the rocket flown by John Pretto (Las Vegas, NV). It was the world's first live broadcast from an amateur rocket. His 90lb rocket was appropriately named "Vidroc.com" (which is also the web address showing the building and information about it), and it flew on an M-1419. It was a very sophisticated project and was quite impressive to hear about. He said, "it had a transmitter and video camera on board (as well as cameras on the ground), and an antenna down at the flight line. There was also an RV at the flight line with a webcasting link to Boulder City that will download the flight and information to the Internet, so millions of people can watch as it flies." What a sight it was to have see this big one fly!

One of the most unusual rockets I saw was the 4X upscale of an Estes Mars Snooper II. I was concerned about the legs on this work of art—that they might break off when it landed. The owner is Doug Gerrard, from Salinas California. It took him about 6 months to build and only weighed 35lbs at take off. It flew on an L-850 and had a projected altitude of 4500ft.

Throughout the whole day, there must have been over 250+ flights, including a wide variety of Estes-type model rockets, several clustered and 2 stage motors and many larger projects, that flew up to M-motors. There were many kits made to scale and several scratch built rockets, as well. Although the day started out slow, it certainly picked up and was a successful day for flying rockets.

Sunday, we were back at the range and it was quite active—flyers were anxious to get their rockets flown before having to leave. Most people had to leave on Sunday afternoon, to get back home for work on Monday. Neil was supposed to do his level 3 attempt today, so many nerves were on edge. Mark James was one of the flyers to get his rocket into the air early. It was his LOC Norad and was his first 'large' rocket he had ever built. It was also the rocket he used for his Level one-certification 3 years ago. His red, white and blue paint job was a delight to see as it lifted off on a G64-7.

The Gates brothers made another showing on Sunday morning. Dirk and Erik had an even bigger rocket then the day before. It was named "Porthos", was 11.5" diameter, weighed in at 160lbs dry, but 220lbs with motors included, and stood an enormous 15.5' tall. It was one of the tallest rockets that flew during Springfest and it certainly had the largest motors (and combination of motors) we saw fly. The motor set up was a central N2000W and six outboard K250Ws, all ground started, for a total impulse of 30,000NS (50% O), the equivalent of an O3500. They reported that "Pathos" was carrying the same electronics as "Athos" but this one reached an altitude of 9000ft.

Lastly, the Gimbel brothers came out to the pad with their "Buffet Bet" rocket. Jason bet his brother Jeff that this rocket would not be able to sustain the force of the launch and hold on to the fins. It was fun to watch the two of them, as they were like 2 peas in a pod when they were prepping the rocket on the pad. I asked them their thoughts on this, and they both said, "this rocket was going to kick butt" and Jeff was sure it would hold together. The VB Extreme 54, weighed about 5.5lbs, was 62" tall, and had a Missile Works Altimeter on board, as it flew on an I-435. The launch was terrific and winner was declared—it was Jeff.

The end of Springfest 2001 had come. There was a slight mix up in the motor delivery for Neil's Level 3, so he didn't get to fly it. However, he said he will be doing it later on this year. We certainly enjoyed ourselves at the El Dorado launch site, as well as the other rocketeers and spectators. I heard many comments throughout the two days, with people saying "they liked it here and would come back to this site". The launch ended about 4:30 on Sunday, as people had to get back to their respective homes and jobs. The air, once filled with rockets flying and excitement, suddenly had a certain, calmness now. The Nevada sun was setting in the West, as the people packed up their gear, campsites and left for home.

Two New Products From Fat Cat Rockets

Fat Cat Rockets will be introducing two new rocket kits at the upcoming LDRS, the Lil' Leader and the Frenzee. At just 16", the streamlined Lil' Leader rocket is a smaller version of their popular Ringleader. For clustering, the Frenzee is a sure winner with the potential for an eight-motor cluster. Both rocket kits feature pre-cut aviation grade plywood fins, plastic nose cone and rip-stop, nylon parachute. For a sneak peek at these two exciting kits check out the FAT CAT AT LDRS 20 page on their website and if you are at LDRS stop by their tent on the launch field and register to win one of these new kits. Along with this giveaway, there will be reduced pricing on ALL their custom kits during the four days of LDRS.

Following the national launch, the Lil' Leader and Frenzee will be available for sale on their website, joining the rest of their line of unique model rocket kits. To help make room in their fleet for the two new models, the GTX and Swarm rocket kits are being discontinued. Sale prices on these two kits by visiting www.fatcatrockets.com.

COSROCS Calendar

Unless otherwise noted, all launches are at Peyton. Business meetings are at the Gold Hill Police Station.

7 Jul:	Sports Launch, 9AM — canceled
11 Jul:	Business Meeting, 7PM
14-15 Jul:	Pikes Peak or BLAST, Peyton
19-22 Jul:	LDRS XX, Lucern Dry Lake, CA
21 Jul:	Sports Launch, 9AM
4 Aug:	Sports Launch, 9AM — canceled
4-10 Aug:	NARAM-43, Geneseo, NY
8 Aug:	Business Meeting, 7PM
18 Aug:	Sports Launch, 9AM
1 Sep:	Sports Launch, 9AM — canceled
12 Sep:	Business Meeting, 7PM
15 Sep:	Sports Launch, 9AM
6 Oct:	Sports Launch, 9AM — canceled
10 Oct:	Business Meeting, 7PM
20 Oct:	Sports Launch, 9AM

NAR Election Ballot Deadline Announced

By George Rachor, NAR Secretary

NAR Election Ballots were sent out in the last edition of *The Model Rocketeer*. The due date was inadvertently omitted from the printed version of the ballot. If you cannot attend NARAM and need to mail in your ballot, it must be received by the NAR Secretary by Friday July 27, 2001 in order to be counted.

Announcement Regarding Certified Motors

By Mark Bundick, NAR President

I've received a number of messages from members regarding the recent decertification of Kosden motors by Tripoli Rocketry Association. In particular, members are asking about the status of Kosden motors tested and certified by the NAR.

I received no advance notice of the TRA decertification action, and am not privy to the details of that action. My direct information comes solely from a posting to the TRA website.

As I continued to receive member inquiry about the status of NAR tested and certified motors, I undertook a review on those motors with both the NAR Board and the NAR Standards and Testing Committee. Here are the results of that review.

First, NAR Standards and Testing certified Kosden motors in conformity with all elements of our certification policies and procedures. TRA's recent actions apparently change their own certification requirements, meaning that our two organizations now have motor certification policies that are incompatible.

Secondly, NAR Standards and Testing current policies don't provide for any reason to decertify the Kosden motors. Kosden motors originally certified by the NAR remain certified, according to the standards and policies in place at NAR Standards and Testing.

TRA's switch to new requirements apparently provides for only a limited grace period (8/31/01). NAR Standards and Testing, when it changes policy or procedures, generally contacts all motor manufacturers, both to solicit input and comments, and to alert them in advance to potential pending changes.

My understanding of the TRA changes are that they now require proof of a ATF issued Low Explosives Manufacturing Permit (LEMP). To the best of my knowledge, Tripoli Motor Test (TMT) does not require proof of any other manufacturing documents which might be required by other federal, state or local agencies.

Historically, the NAR has chosen to restrict its compliance requirements to DOT paperwork only, because we were interested only in making sure that motors could safely and legally be shipped in interstate commerce (including to NAR Standards and Testing). We have viewed the NAR as not being involved in federal, state or local law enforcement concerning explosives manufacturing. We also did not believe we had the resources to determine what all the requirements were with respect to manufacturing in various localities. This is a structural difference between the NAR and TRA certification programs. To shift NAR requirements to add such compliance checks would, in my opinion, require a review and approval by the NAR Board of Trustees.

Finally, the TRA Board action apparently will unilaterally remove some portion of NAR certified motors from TRA ranges. While there is no formal, written agreement between NAR and TRA to recognize the other organization's certified motor list, an informal agreement has existed since prior to my becoming NAR President. Failure to recognize one another's certifications will mean the two organizations' range operations are incompatible. I believe this complicates flyers' planning and activities, and needs to be addressed

in order to make sure range operations between NAR and TRA return to a compatible state.

In response to this set of events, I have asked NAR Standards and Testing to take the following action steps:

a. The Committee will review their existing certification policies and procedures in light of the TRA changes.

b. The Committee will report to the Board at NARAM on how they believe those policies should be modified, assuming they wish to make any modifications.

For NAR members, please note that:

a. The NAR still considers engines tested and certified by NAR Standards and Testing to remain certified, and that, in particular, Kosden motors certified by the NAR will remain welcome on NAR ranges.

b. The joint list of NAR and TRA certified motors will reflect any changes in TMT-tested motors, including any pending decertifications.

c. I have contacted Bruce Kelly, and asked for TRA's assistance in two areas:

We need to determine what certified engine list will be used on ranges where the event is jointly sponsored; TMT and S&T need to jointly prepare a uniform set of certification and decertification standards for submission to the NFPA for inclusion into NFPA Code 1125. I will suggest that a draft of those standards be ready in time for the NAR Board's planned February 2002 meeting.

My thanks to NAR members for their questions and comments, and to the members of NAR Standards and Testing for their quick response to my inquiry.

As I have further information and details to provide to NAR members, I will post them here.

Estes to Release E Motors and New Kits

According to the Estes Internet web site (www.estesrockets.com), the company will be releasing a new line of E motors this August. The E9 motors will be available in 3 delays—E9-4, E9-6, and E9-8. The motors will be the same diameter (24 mm) as the current D motors but will be 3.75" in length. Total impulse is listed as 28.62 N/Sec with a thrust duration of 2.8 seconds. The last E motor Estes produced, the E15, had to be withdrawn from the market due to their nature to CATO. We hope these motors will not have the same problem. A number of NAR sections have reported receiving some of the new E motors from Estes to try out. So far, the reports of their usage have been very favorable.

Three new rocket kits will also be released to use the E motors. First is the Eliminator which looks very much like the old Maniac. The Eliminator uses a one piece plastic fin unit. Next is the Executioner. This rocket looks similar in size to the Broadsword/Super Big Bertha. It has a pointed (Phoenix style) nose cone and slightly swept-back fins. The last new rocket is the old Maxi V-2. This is a 3.9" diameter V-2 with plastic nose cone and tail cone, and vacu-formed fins. This should please all those Born Again Rocketeers who have been waiting for Estes to re-release this kit.

Photos from the National Sport Launch. Top photo is UROC's Randall Redd holding his flying elephant rocket. The bottom photo shows a night static test firing of an Aerotech Redline motor.

(Photos by Nadine Kinney)

Greg Sandra's Patriot at the Space Day Launch
(Photo by Laurie Black)

A Maxi Goblin
(Photo by Greg Elder)

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