



The COS-Rocketeer

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

NAR Section #515



Volume 13, Issue 1

January/February 2002



Whoa, Dude, what's up? Eric Meing's Dude takes flight at Cape Preble.
(Photo by Greg Elder)

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Space History: Thirty-five years ago, the Apollo Program began with a tragedy, when fire swept through a Block One Apollo spacecraft on January 27, 1967 killing Virgil I. "Gus" Grissom, Edward White, and Roger Chaffee during a "plugs out" test on the pad. The subsequent redesign produced a safer and superior spacecraft for the 45 astronauts that flew in them from Apollo 7 in October of 1968 to Apollo-Soyuz in July of 1975. In all, twelve men, starting with Neil Armstrong and ending with Eugene Cernan, walked on the moon before Apollo was completed. (Source: <http://www.thespaceplace.com>)



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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:

Greg Elder
6121 Cranberry Ln.
Colorado Springs, CO 80918

e-mail: gelder@pcisys.net

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@yahoogroups.com. To subscribe to the listserv, go to <http://www.yahooogroups.com> to register and select 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.

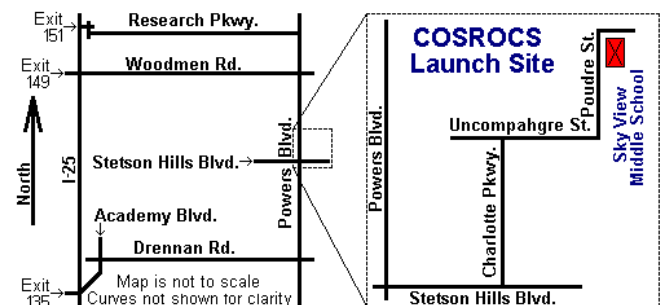
COSROCS Officers

President: Greg Sandras, sandrasg@interserv.com
Vice President: Neil Kinney, nkinney@aecom-sig.com
Section Advisor: Warren Layfield, section515@juno.com
Secretary: Nadine Kinney, photos.by.nadine@pcisys.net
Treasurer: Mark James, markjames@pcisys.net
Librarian: Dave Virga, virga@datawest.net
Contests: Dave Nauer, david.nauer@wcom.com
Web Master: Mark James, markjames@pcisys.net

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 Sky View Middle School, located at 6350 Window Peak Blvd. 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 Sky View.



COSROCS holds a sport launch on the third Saturday of each month at Cape Preble in Peyton, Colorado. The launches begin at 9:00AM. This launch site has a 3.3 pound weight limit for rockets. To get to this launch site, head east on Hwy 24 towards Peyton. Turn left right after the grocery store. After the curve, bear right onto Peyton Hwy. Drive to Sweet Road, 4th turn on the right. Go approx 1.5 miles on Sweet road. On the left, near the bottom of the hill, is a gate to the launch site (21410 Sweet Road). Look for the green ranch gate (Star Gate).

The Nagging Editor

By Greg Elder

Happy New Year. Welcome to another COS-Rocketeer New Year! You'll have me as editor for one more year. At the end of this year I plan to step down as editor. (After three years, I'll need a break.) This gives everyone an entire year to think about taking on the job as newsletter editor. It is a very rewarding job and provides valuable information to club members. If you've been a member of COSROCS but have yet to serve as an officer or volunteer, please consider the editor job next year. In the mean time, I will continue to nag people for articles and photos. I can't produce a quality product without inputs from members. So, please continue to send me material.

Volunteers Needed. Speaking of volunteering, I could really use help with writing the launch reports. In the past, people would volunteer to write-up specific launches. Basically, you get the flight log from Warren to use in writing the report—listing the flights for that day's launch and adding any other interesting information about the flights that you want. Please let me know in advance if you can cover a launch.

It Pays to Read the Newsletter. I've occasionally wondered how closely members read the newsletter. So, as an experiment, I placed a "secret message" in the Nov-Dec issue. If you look at page 8 of that issue, the third sentence in the second paragraph said I would give a free rocket to the first person that contacted me after reading that sentence. I did not think anyone would respond, but eventually Tom Dembowski came through as the winner. He received a free Custom Rockets Elite kit. I may continue to have surprises like this in future issues, so it is to your benefit to read each issue of The COS-Rocketeer thoroughly. As a matter of fact, in this very issue, I have placed three trivia questions related to rocketry. Be the first person to contact me with the correct answers and you will win a pack of Estes motors. Good luck. (By the way, if you win one of these "hidden contests", you are not eligible to win the next contest. Hey, give others a chance.)

The President Speaks!

By Greg Sandras, COSROCS President

Well, it is a new year! We've seen many changes over the past year. One change is Neil Kinney and I trading positions in COSROCS. Neil took a step down to Vice-president so he would have more time for rockets and to work on Project Big-Roc, which he is now in charge of. He also wanted new leadership, and to give someone else a chance to lead. So I took the step up to president, with some coaxing from other COSROCS members. By the way, my wife would like to thank everyone who voted for me. I'm being sarcastic of course.

On another note: did anyone get a chance to read "Bunny's" article *September 11* in the Dec 2001 "The Model Rocketeer"? He mentioned, "...public news reporting that our hobby is dangerous, and municipalities and park districts are banning rocket flying on their property..."

With our constant rapport with the local media and fire departments, we do not have this problem. Any time there is a grass fire from a model rocket, the media is informed enough to know it was the operator that erred and not the hobby itself. As for not being allowed to launch rockets in certain parks, I don't think there are very many, if any, parks we could safely launch at anyway. This has always been a concern for me. While Colorado Springs is known for it's open spaces and parks, there really isn't any park that is "open"

(free of trees). I have been to a few parks, like one in Vancouver, Washington where the trees are on the outside edge of the park. This left room for Frisbee, football, or rocket launches without anything in the way. Bunny also wrote about our "...hobby is not being promoted and protected in the same fashion as it was back in the 1980's."

Mark Bundick also wrote that we should respond to President Bush's challenge "...to service our own communities" with a renewed effort to promote sport rocketry. How can we accomplish this? Mark recommends we team up with educators. We're doing this already, thanks to Warren, George, Frank and everyone else donating their valuable time to the many building and launching session we have all year long.

I wonder—is there more we can do? Are we getting the word out to every educator in the local area? A monumental task to say the least! Spring and summer are our busiest times of the year in helping schools, scouts, and the Civil Air Patrol. However, the requests usually come from the same schools. There used to be 24 hours in a day, now there seems to be only 18. If we could somehow spread the wealth (knowledge) with the rest of the educators to build and launch throughout all four seasons so we may not be so swamped in the spring and summer.

We have been given the "Team America Rocketry Challenge" and we are starting Project Big-Roc. We can use these as a tool to help inform the public and educators of the hobby.

Can we accept President Bush and Bunny's challenge? I feel we already are. Can we do more? This is something that will have to be discussed at our next meeting. Either way, COSROCS has been meeting this challenge in such a positive manner for years, which few rocket clubs can match, and COSROCS will continue to do so.

Section News

Another Great Christmas Party. Frank and Terri Bittinger once again hosted the annual COSROCS Christmas party. Held at their home in Monument on December 12, many COSROCS members, spouses, and guests attended. A potluck affair—everybody enjoyed dining on fried chicken, sub sandwiches, salads, cherry cobbler, pumpkin pie, and various other goodies. We had enough food for everyone to get really stuffed. Folks at the party talked of rockets, club activities, and watched a video of high powered flights with on-board cameras. Everyone seemed to have a grand time. If you missed out, plan to attend next year's party. They get better every year. Thank you Frank and Terri for your generosity once again!

New Club Officers. During the Christmas party, we held elections for COSROCS officers for 2002. The winners are:

- President: Greg Sandras
- Vice President: Neil Kinney
- Secretary: Nadine Kinney
- Section Advisor: Warren Layfield
- Treasurer: Mark James

- Librarian: Dave Virga
- Contests and Records: Dave Nauer
- Events: Frank Bittinger
- Range Operations: George Shaiffer and Warren Layfield

BOMARC Raffle Results. The drawing for the North Coast Rocketry BOMARC kit was held during the Christmas party. Fellow club member Bruce Faling had donated the kit to the club. We raised \$125.00. The winner of the raffle was our very own George Shaiffer.

Congratulations George! We hope to see the BOMARC fly this summer.

Meeting Format Changes. At the November and December meetings, we discussed changing the meeting format. We would like to keep the business portion of meetings to 30 minutes or less, and use the remaining time for fun/interesting activities. Some examples of activities would be a group build session, watching rocket videos, having members talk about their current projects or teaching specific skills like how to fiberglass a rocket. Send your ideas for specific meeting activities to Greg Sandras. Some activities may require us to change meeting locations. Watch for details to be posted on the COSROCS listserv.

Project Big Roc. Neil Kinney has taken over as director of Project Big Roc. Neil is a good choice for this position, as he is the only COSROCS member to have a Level 3 certification. Let Neil know if you wish to participate in the planning, designing, and building of Project Big Roc.

Jeffrey Parhem	Viking	A8-3
Daniel Hellewell	Star Dart	B6-4
J.P. Anderson	Sizzler	A8-3
Chris Anderson	Fatboy	C6-3
Bud Hafel	Navy	C6-4
Travis Taylor	Goliath	C6-4
Greg Elder	Aerobee Hi	F62-4
" "	Saucer Glider	A10-3T
Billy Feltz	US Army	C6-7
Bob Ellis	Spool	D12-3
" "	Sprinkles	E28-4
" "	Aerobee 300	D12-7
" "	Red Rocket	F39-6
Bob Lahman	Twister	B4-4
Jeff Proffitt	Maxi - Force	3XD12-7 Cluster
Josh Brosz	Red Rocket	F39-6
Robert Sharpless	Bandit	B6-4
Jacob Cottle	Mach 12	B4-2

November Peyton Launch

By Greg Elder and Warren Layfield

On November 17, COSROCS was joined by the Pikes Peak Council Boy Scout Troop 62 for the monthly launch at Cape Preble in Peyton. The Boy Scouts had their tents pitched on-site, as they would be camping over night to observe the Leonid Meteor shower in the early morning hours of the 18th. Along with regular sport launches, the scouts participated in a few rocketry contests among themselves. The specific events were highest altitude, accuracy, duration, and craftsmanship.

Some of the more interesting flights of the day were Jeff Proffitt's Maxi-Force on three D motors. One of the fins on Jeff's rocket has been broken and repaired many times. (Looks almost like a jigsaw puzzle glued together.) As a matter of fact, the fin broke again while Jeff was prepping the rocket. However, a few squirts of CA glue quickly fixed the fin once again. And, yes, all three motors ignited for a great flight. Greg Elder launched a Saucer Glider for a neat flight and glide. (Styrofoam rules!) Lastly, CRASH member Bob Ellis launched Sprinkles—a plastic, toy fire hydrant converted to fly as a rocket. The launch was outstanding but due to a recovery failure, Sprinkles is no more. (There were many plastic pieces upon impact.) Bob also flew a spool on a D12 motor. Below are the other flights from the day.

<u>Name</u>	<u>Rocket</u>	<u>Motor</u>
Rick Wihon	Seahawk	D12-5
Chris Anderson	Fatboy	C6-3
Philip Gaspar	Bandit II	B6-4
Stephen Pecoraro	Recoil	A6-4
Josh Godshall	Gnome	A4-4
James Miller	Rocket	B4-4
Jordan Florell	Goliath	B6-2
Paul Heinecke	Moch II	A8-3
Ian Hejtmanek	Navy	C6-7
Matt Zrust	Spider	B6-4
Adam Stanton	Nemesis	B6-6
Andy Sohns	Dagger	C6-3
Chris Dellacrace	USA Army	B6-4
Andrew & Matthew Marrell	Fire Stick	B4-2
Kevin Moulton	Menance	B6-4
Haley Aycock	Bandit II	A8-3
Chris Trapp	Death Star	B6-4
Kyle Sheridan	Code Red	B6-4

The Pikes Peak Council Jamboree District BSA Troop 62 competition as follows:

Event	1st	2nd	3rd
Highest	Road Runners	Wolverines	Frontiersman
Accuracy	Frontiersman	Wolverines	Cougars
Hang Time	Road Runners 1:22:51	Wolverines 52:48	Cougars 32:69
Construction	Rams	Frontiersman	Wolverines

COSROCS' Section Advisor, Warren Layfield, judged the competition. All had a good time. Thank you to the Prebles for allowing the scouts the use of their property.

Rockets N' Leonids

By Tom Preble

(Editor's note: Here is another launch and meteor report from the November 17-18 events in Peyton, as reported by our gracious land owner. Thanks Tom!)

Fhhssssh, Ahhhh! Thoop! Well, that rocket went a little screwy and ejected its engine instead of its parachute, but it was a Boy Scout rocket. The Boy Scouts' rockets kept things interesting while the COSROCS rockets wowed the crowd. A great day for launches.

Boy Scouts lined up ten deep to have a turn at The Button. Warren Layfield kept it all under control. Odd Rocs, nicely finished Rocs and Scout Rocs entertained us all afternoon. The big show awaited us that evening.

If meteors are bugs and the earth is a car, after midnight we are on the windshield! Jeff Venable counted well over a thousand meteors and gave up. Not just at the radiant in Leo, the meteor display was all over the sky. Involuntary oos and ahhs from the CSAS crowd melded with the same sort of high brow commentary from the Scouts camped over the hill in the west pasture. Several nice ones in the neighborhood of Ursa Major lit up the night and cast shadows. Sometimes the meteors would streak in 5 or 6 at a time. I sent the kids in to put on their bike helmets. They didn't fall for it, teens are just no fun.

We were all snuggled in warm clothes or sleeping bags and on lounges or pads to enjoy the show. And the show went on. Doug Triggs couldn't even utter "I'm bored" between meteors, they were

that thick. By about 4:30AM most of us had returned to the warmth of the house. Later that morning I noted comatose bodies strewn all about the living room. Those that remained until Ilene arose had a nice hot breakfast of scrambled eggs and sausage. The Leonids are over for another year but the memories like meteor plasma trails, just keep glowing.

This Old Rocket, Part 2

By Tom Dembowski

Well, our nagging editor is after me again for a second installment of This Old Rocket, so here goes...

Since I started off the first article with a boost glider, let's continue that trend this time too. The Nighthawk is a favorite with many to this day. Rather than ejecting the engine as many early boost glider designs did in those early days, this model had a somewhat conventional rocket section (they called it a "pop-pod" or "power-pod" in the catalog) that carried the glider (which hooked onto the pylon at the base of the booster) and ejected a parachute in the normal manner for easy recovery. The glider detached at apogee and its return depended on how well the glider was trimmed beforehand. No moving ailerons like the Space Plane on this glider although there were a forward pair on the booster section to help with the stability of the overall vehicle as it accelerated skyward.

As I mentioned in the last article, scale models were very big back then. They seem to go in and out of vogue over the years, just recently many old scale kits were reissued by Estes (Honest John, Maxi V-2 and of course, the venerable Saturn V). Apogee has also just come out with a larger 1/70 scale Saturn V and the highly sought after Saturn 1B. The Thor Agena B kit was modeled after the booster used by the US Air Force in the 60s. The Thor was a former IRBM (Intermediate Range Ballistic Missile), the forerunner to today's ICBMs. The Agena was the upper stage. This kit was highly detailed, down to using a piece of launch lug to form the vernier engine thruster. It was available into the early 70s when it was put on clearance by Estes for something like 89 cents (along with many other older kits including the Space Plane, Little Joe II, Farside X and Spaceman). Oh how I wished I saved few unbuilt ones for today's ebay era. This kit also used the cut and glue together clear plastic fins. Nowadays I cheat and use the molded unit that came with several 80s kits, it is much easier to work with and the fins are perfectly aligned. A factor to consider is the Agena section was not a standard tube size. It was a special tube called a BT-52 that meant the balsa cone and adapter were odd sizes as well. This has discourage modelers from being able to recreate the kit until recently when none other than our nagging editor special ordered a supply of the odd size tubes. While complete Thor Agena B kits are extremely hard to find these days, and Estes used up its supply of Thor Agena B body tubes and balsa parts in a kit called the SPEV. This kit, seen at many COSROCS launches courtesy of yours truly, used the entire Thor Agena B core with the body tube from a Little Joe II and a TA-6070 adapter to create an impressive kit which to this day I have yet to destroy after dozens of launches. Even more impressive was that this seemingly indestructible kit cost us only 99 cents when it was briefly available through the Model Rocket News in 1971. Quite a bargain, and again, I wish I saved a bunch for today's market.

Another early scale model was the original V-2. The upscale version now available is certainly an impressive kit but there once existed a version using the standard A/B/C engines. Until recently when the balsa nose and tail cones became available again to fit the BT-55 tube, this was another one hard to recreate on your own. My original has long been fish food in the Connecticut River, having drifted away on a very windy April day. It was only recently I was

able to rebuild a new kit using the old plans. This is a nicely sized model for everyday club launches and to display.

Finally, I will wrap up this month's installment with two early "tumble recovery" kits, the Scout (kit #1) and the Sprite. During our tour of Vern Estes memorabilia room, he mentioned the Scout originally could be packaged in an blue engine mailing tube. (Question #1, True/False, Estes made a nose cone to use with their original engine mailing tubes.) The Scout used a parallel wound BT-30 tube and very thick fins that meant it was very sturdy. I still don't know how it survived some of the landings it took especially with those old 1/4 A motors (the full size ones, not the minis). I often wondered how those original 1/4 A motors could lift the weight of the casing, let alone a rocket. The Sprite used the BT-30 as well, with a BT-70 outer ring which gave it its distinctive look. It used the 'S' motors (same diameter as a standard engine but one inch shorter, for those of you who not yet immersed in the metric system). This saved some weight but limited the motor choices to A and under (unlike the Scout which could literally go out of sight on a C, which made where to stand as it came tumbling back an interesting proposition).

That's it for this time. If the editor hasn't yet thrown me off these pages, I'll be back next time with some more classic kit descriptions. Until then, rocket on...

The Moon Hoax

By Kim Poor

(The Following article appeared on COLLECTSPACE.COM and in Ad Astra magazine. Reprint permission from the author, Kim Poor.)

Conspiracy theorists claimed for years that the moon landings were faked. This was little more than the domain of those goofy tabloids, and given as much credence as flat-earthers. Recently though, the repeated airing of a program on the FOX network entitled "Conspiracy Theory: Did We Go to the Moon?" is causing widespread doubts. No longer the ravings of looneys, it is gathering steam amongst even housewives, children, and people you'd think should know better.

The airing of this program (twice in the US, once in Britain) now sees the moon hoax widely discussed and debated in offices, streets, bars or anyplace where people gather and talk. The conclusion is that the moon landings were a Hollywood stunt, the most expensive movie ever made (and filmed at Area 51!) They claim that the space race could not be won with technology, so we did what we do best—faked it with film. We did such a good job even the Russians gave up the moon.

Part of the appeal of this program is that it is a ratings-hog, because it appeals to believers and non-believers alike to reinforce their points of view and arguments. That means it may continue to air for years, continually infecting new minds like some sort of warped "Wizard of OZ."

With so many of Hollywood's astounding special effects, it isn't a stretch for an impressionable young mind to think that it has always been possible to fool the eyes. Since we can't make it to the moon today, how could we have done it more than 30 years ago? Much of the world was still in black and white back then (!)

The program raises a flurry of questions that to non-scientific types with a National Enquirer mentality sound like logical examination of facts. My kids were expressing concern because of schoolyard taunts related to the alleged hoax. Each of the questions can be explained, but many will take some scientific study and guidance for a cogent and convincing argument.

I submit that all True Believers must go forth and spread the truth (do I sound like an evangelist?) because if we don't, in another

generation the "moon hoax" could cast at least a strong shadow of a doubt on the great accomplishments of the space program 30 years ago. There won't be any witnesses, and certainly no Apollo astronauts.

If you haven't yet been confronted by an HB (hoax believer) you will. It's a noble exercise to debunk at least the major points that seem to be the cornerstones of an HB. The more people armed with facts, the more prepared for an HB encounter, then that's one small step, to coin a phrase. We must be as focused and fanatic as they are.

The end result is that we may inspire a whole new generation to understand the wonder and glory of what we accomplished over thirty years ago. Born-again space geeks! Of course, there are those who will never submit. Evolution will take care of their kind.

Eventually there will come a time when people will be living on the moon, and the whole thing will be moot, since the Apollo landing sites will undoubtedly be enshrined. That may be a long time in the future. We will probably be on Mars long before.

The foremost HB argument seems to be "Why can't you see stars in any of the pictures?" Our UPS driver, a man I thought intelligent because of his nerdy appearance, could not stop talking about it (knowing that my company deals in space memorabilia.) Our business was a sham.

My answer is "You can't see stars in the daytime." Just because the sky is black doesn't mean it's night. There is still a glaringly bright sun, earthlight, and the landscape is lit up in every direction. Cameras can't capture bright and dim objects in the same shot. Even on earth at night, you need a long exposure to photograph stars.

Most of the 20-odd HB arguments are either bad science, bad photography (even though they quote photographic "experts"), or usually just an ignorance of the truly alien environment of an airless moon and how strangely things behave there.

Some astronauts report no confrontations, but others, like Neil Armstrong are called upon to "prove" they went to the moon. Armstrong had a good one: Laser beams are bounced off reflectors on the moon regularly to accurately measure distance. "I put one of those there" said Armstrong "If we didn't go to the moon, how did those get there?"

Other HB arguments can ironically PROVE that men went to the moon, because they speculate on odd things that were "forgotten" by NASA's cinematographers, such as no dust billows upon landing, flags flapping "in the wind" and such, not realizing that the movie set would have to be a near-perfect vacuum for those to occur. This is not possible. Personally, I believe Dave Scott's Hammer and Feather experiment proves it all.

Apollo 8 & 13 veteran Jim Lovell was asked about the show's producer, Bill Kaysing, and Lovell called him a "kook." Lovell was sued for slander by Kaysing, but the case was dismissed, as Kaysing couldn't afford a lawyer (he was being evicted from his trailer park.) He acted as his own attorney, but you know what they say...

If Carl Sagan were still alive, he'd find himself in the strange position of defending the manned space program. How I miss his charming, logical debunking of hoaxes and conspiracies. He'd relish the inconsistencies of all this nonsense. And people would listen! But now it's up to us.

There are a couple of good hoax-debunking websites, as well as a few HB websites. These have links to other sites, also. Have a look and be informed. Conspiracy Theorists are everywhere! They look just like you and me. It's them or us. The future of the world is in your hands!

For fantastic space art, visit Kim Poor's Space Art Gallery at <http://www.novaspace.com>

Point 39's LDRS XX Video

By Greg Elder

In my opinion, the best high power rocketry videos are those made by Point 39 Productions. Their latest video, covering LDRS XX, is no exception. Professionally produced, this video will entertain and educate any rocketry enthusiast.

One nice feature about this video is that it ties in LDRS XX with the 20th anniversary of the space shuttle, which also occurred in 2001. This is a nice connection between those of us who enjoy the hobby of rocketry and the professional rocketeers flying the "real birds." In addition, this video also contains some historic film footage from LDRS I held in Medina, Ohio in 1981. That footage is a little fuzzy, probably originally filmed with an 8mm movie camera. However, it does show those initial launches from LDRS I where the largest motors flown were H and I. Other "high power" flights consisted of clusters of Estes D and FSI F motors. The hobby has come a long way in 20 years—M motor flights are now regular occurrences at LDRS.

Of course, the heart of this video and the majority of the coverage are of LDRS XX. Many outstanding flights are covered. Point 39 Productions made good use once again of their famous pad cam—the camera placed next to the launch pad puts the observer right next to the rocket for some spectacular launch views.

Many outstanding flights from LDRS XX are shown in the video. One of the best launches is a 230 pound N-1 rocket on 42 motors. A number of large V-2's were flown at LDRS and are included in the video. Only one of the V-2 flights was successful, however. Another great launch is Wedge Oldham's 200 pound two-stage Nike Hercules. (Question #2, who held NAR #1?) There is also footage of a flying pyramid, as well as numerous flying spoils—one on a K motor. Our own Neil Kinney's level 3 Sandhawk is also shown in the video.

Many other great high power launches are shown on this video. I highly recommend this tape to anyone with an interest in high power rocketry. The tape sells for \$20.00, which includes postage. You can order the LDRS XX video from:

Point 39 Productions
1607 Apple Valley Dr.
Augusta, GA 30906

NAR Trustee Nominations Solicited

In accordance with the by-laws, the NAR has annual elections to fill three of the nine board positions. The three positions to be voted on in July 2002 will be for three-year terms.

If you wish to run for the board, or know someone you feel is qualified and will accept, the NAR is soliciting nominations. If you nominate someone other than yourself, you must include a letter from the nominee indicating his or her acceptance.

Nominees themselves should provide a resume and statement no longer than 300 words to be published with the ballot material. Be sure to include your name, address, and NAR number on your resume. By NAR policy, Sport Rocketry magazine will not publish any campaign-related material, either paid or unpaid. All nomination material (letters and resumes) must be received no later than March 1, 2002 by the NAR secretary. Send to:

George Rachor, NAR Secretary
33380 NW Bagley Road
Hillsboro, OR 97124

Getting a Record—1/4A Super Roc

By Jeff Proffitt

A few months ago, an e-mail was posted on our list server by Dave Nauer from Fred Williams. Fred wanted to know about the record setting models from our region. As some of you know, I have a NAR record (pending) and COSROCS record for 1/4A Super Roc duration. At Winterfest X, my second flight of the day scored 4,200 points, or an 84 second flight multiplied by a 50 cm long rocket. I finally got around to sending Fred the information he wanted, and I thought it would be a good opportunity to write my first article for the newsletter.

My 1/4A Super Roc uses Apogee components and 105mm 1/4A2-4 motors. The body tubes are 10.5mm and the design uses a fake payload section and externally mounted shock cord that I felt would provide the easiest ejection of a large parachute. As flown for the record, the model uses no engine block or launch lug. Flights are from a tower with the engine taped in. The balsa parts are two nose cones, one of which is sanded down to make a bulkhead, and three fins patterned after Apogee Centrix fins. The recovery system is a 32 cm round parachute with 8 shroud lines made from mylar gift wrap and a 40 cm kevlar shock cord. My finished model was just over 50 cm long and weight approximately 1/4 oz without an engine.

Parts List

- 1 105mm body tube, 38cm long
- 1 105mm body tube, 13cm long
- 40cm kevlar shock cord
- 2 10.5mm balsa nose cones
- 1/32" fin stock
- Electrical tape
- Mylar gift wrap
- 256cm shroud line
- 6mm x 6mm stickers for parachute reinforcements

Useful Rocket Tools

By Tim Van Milligan

There are many lists of range box supplies. So, I thought I'd write about some of the useful tools I have in my inventory for "building" model rockets.

Many novice modelers think that you have to have lots of different power tools to build cool looking rockets. But that is not the case. I have access to lots of power tools, but I rarely use them. For most kit building, I do most of the stuff by hand.

The most important tool is a hobby knife. I have about six of them. They are everywhere in my work area. I have so many because I kinda rotate them based on how old the blade is, and what I'm cutting. Dull blades are great for scoring lightweight paper that needs a sharp fold (like on a Nike style fin). For general purpose cutting or scraping, an old blade will be sufficient. For ultra-precise cutting, I want the freshest - sharpest - blade available. I also keep single-edge razor blades in abundance too. I use them mostly for a scraping action.

My second favorite tool is a sanding tee. I use an aluminum "T" extrusion, but an ordinary block of wood to wrap the paper around would work just fine.

I've done a few building workshops for some clubs, and I've seen that most people don't have a sanding block. They typically just use a piece of sandpaper layed flat on a table. I've found the sanding block indispensable. I personally don't tape the sandpaper to the block. I just fold it over the sides and grip it tight so that it doesn't slide. Because of this, I can have several grades of sandpaper around at once, and each grit is ready to quickly spring into action when I need it.

One tool that I made myself is by gluing sandpaper around a wood dowel. This tool allows me to sand on the inside of body tubes and centering rings. I try to have several dowels around with different grits of paper on them.

Speaking of the wood dowel, they come in handy for all sorts of applications; smearing glue inside of body tubes, pushing rings into tubes, and even smoothing out fillets. I have several sizes of wood dowels, and some smaller pieces of music wire that act as micro dowels. I also use the music wire to unclog the tips of CyA bottles.

Another indispensable tool of mine isn't in the workshop area. It is my computer and the laser printer. I draw out fin patterns, and then print them out. They come out exactly the size I want them. To use them, I spray the back of the paper with Spray Mount adhesive to stick them onto the balsa wood for cutting out.

Other tools that I use often:

- I found a short piece (12" long) of aluminum channel at a discount store. I use it for drawing lines along body tubes, and for cutting tubes. Besides my sanding Tee, this is probably the second most used tool in my inventory.
- From a flea market, I got some of these old dental tools. My favorite one has a hook at both ends. I use it for scraping, scoring, and spreading out paste and putties. I've also used it to dig things out of the insides of body tubes. It has gotten me out of several jams.
- For cutting thick wood, a razor saw is the only way to go. I recommend one for your construction bench.
- Everyone has tweezers. But I've got several. The two that get used most often are the sharp pointy ones, and the cross-action variety. The latter gets used as a small clamp.

I've stopped many a project in the middle, because I had to hunt down my pointy tweezers. If you have to buy just one, get the pointiest ones you can find.

- The only power tool that I use with any regularity is a battery-powered dremel. I like the battery powered variety better than the outlet style because they run at slower speeds. Because of this, I feel I have better control over the cutting, or scraping that I use it for.

To conclude, don't get caught up by thinking you need lots of specialty tools to build model rockets. A few hand-tools can go a long way to making great rockets.

About the author: Tim Van Milligan is the owner of Apogee Components (<http://www.apogeerockets.com>) and the new rocketry education web site: <http://www.apogeerockets.com/education>. He is also the author of the books: "Model Rocket Design & Construction" "69 Simple Science Fair Projects with Model Rockets: Aeronautics" and publisher of the FREE e-zine newsletter about model rockets. You can subscribe to this e-zine at the Apogee Components web site, or sending any message to: apogeerockets-subscribe@listbot.com This article may be reprinted as long as this paragraph is included with the text.

2002 National Sport Launch Announcement

GILBERT, AZ. The Superstition Spacemodeling Society (NAR section #506, TRA Prefecture #047) is proud to announce that it has won the bid to host the annual National Sport Launch (NSL) for 2002. The launch will be held over the Memorial Day weekend at the end of May 2002. The NSL is the National Association of Rocketry's launch with the emphasis lots of sport rocketry flying at all certified impulse levels.

NSL 2002 will be held close to Goodyear, Arizona a short drive from the Phoenix metropolitan area. The actual launch site is known locally as Rainbow Valley. The site is privately owned ranch land, and offers the rocketeer miles of relatively flat desert. Vegetation is minimal, and recoveries of even the highest flights are relatively easy. The FAA waiver SSS has traditionally operates under offers flying up to 7500' MSL (the site is at about 1200' ASL), with call-in windows up to 12,000' MSL! The SSS may also obtain a waiver for a night launch, which has been a tradition at some of our other regional events.

The launch site is located close to a number of amenities varying in price and location. Most of these are located in Goodyear, only a short drive from the launch area. There will be camping at the launch site, and RV's are welcome. Phoenix Sky Harbor airport is also close by, along with all of the conveniences and amenities one could expect from the nations' sixth largest city. There's even a casino within easy driving distance from Goodyear.

Best of all, the SSS offers a lot of experience with big launches. We've hosted the NSL in 1993, and have co-hosted a past NARAM. More recently, SSS has hosted the G. Harry Stine regional launch as a multi-day event.

SSS has also made important innovations in range management. Within the last year, the SSS has implemented a modification of the famous 'Mis-fire Alley' that has reduced launch cycle times to some of the shortest to be found ANYWHERE in the country! Developed by NAR Section Advisor Wally Etzell, this new system increases efficiency while at the same time decreasing distraction to the range crew. The net result is a safer range that offers rocketeers a chance to maximize their flying time!

More information will become available as arrangements are made. In the meantime, please direct inquiries to the launch director, Peter Riddell, at riddell@prodigy.net. You can also call at (480) 497-1960.

Apogee's 1/70th Scale Saturn V Now Shipping!

Apogee Components is now shipping the huge 1/70th scale Saturn V rocket kit. Standing over 5 feet tall and 5.67 inches in diameter, this is the largest flying model rocket kit of the Saturn V moon rocket in the world.

From the tip of the nose to the base of the display nozzles, this is a totally "new" kit. It includes:

- Highly detailed injection-molded plastic nose cone and escape tower
- Injection molded RCS nozzles for the Service Module
- Injection molded F1 Display nozzles that are removable when you are ready to launch your rocket.
- Embossed paper wraps for the upper transition piece between the third stage and Service Module.
- 6-color water transfer decals (with special mission specific decals for 12 Saturn V's that rocketed into space).
- High quality paper tubes that were sized to exactly 1/70th scale.
- 7 highly detailed plastic corrugated wraps - that include all the small tunnel covers pre-molded (so assembly is quicker).
- Extra sturdy die-cut centering rings along with a 29mm motor mount that fits your favorite high power rocket motors.
- 2 large nylon (60" and 36" dia) parachutes so your rocket descends slowly to the ground to be launched again and again!
- Molded plastic fins that are removable when you transport your rocket to and from the launch site.
- Four hours of how-to videos that show step-by-step how to build this rocket. By watching the videos, you'll see the techniques that practically guarantee a great looking and well-built rocket kit.

This is a rocket kit that was truly engineered by real rocket scientists—not simply whipped together and tossed into a box. It is strong enough to fly on big high-power rocket motors, but is still light weight. In fact, when prepped for flight, this rocket is only 2-1/2 lbs, so you do not need a FAA high-power waiver to launch it! It flies great on a G80-4 rocket motor, which you can purchase at your local hobby store. No high power certification or special rocket motors are required.

All the kits that were pre-ordered by customers will be shipped out prior to November 9, 2001. New orders are being accepted right now, and will be shipped as soon as all the pre-orders have been filled.

For more information on this product, visit: <http://www.apogeerockets.com>.

Rocketsilo 2.0

The Gates Bros. are pleased to announce they recently purchased the rights to the Rocketsilo name and website. "We perceived that Rocketsilo was a well respected consumer rocket

business and we were just as shocked as everyone else when Steven Moore posted his going out of business sale" stated Erik Gates. While not buying the old Rocketsilo business in toto, the Gates Bros. intend to continue the spirit of the business by naming the new enterprise Rocketsilo 2.0. "This portrays a new beginning with new ownership and management" said Erik Gates. We intend to make Rocketsilo even better than before. It will carry more product and have an even better web presence. Special relationships are being formed with a number of rocket industry manufacturers and suppliers to bring the customer new and exciting products. The RocketSilo motto is "for rocket lovers by rocket lovers" stated Erik Gates.

Secondly, the Gates Bros. are pleased to announce they have teamed up with the Pretto Bros., another rocket brother team that brought the public the first live internet web broadcast from inside a rocket. The Prettos will be active participants in Rocketsilo 2.0. "We found out that while we were pursuing the Rocketsilo brand, the Prettos were also intending to start a new entity involved with rocketry" stated Erik Gates. "It only took one phone call to realize that we should combine forces under the new Rocketsilo 2.0 name."

Rocketsilo intends on carrying a full line of rocket kits and motor systems from the best companies available today including AeroTech, Public Missiles, Rocketman, Dr. Rocket, Aeropack, Top Flight, BSD, Blacksky Research, and many more. Our intention is to be the customer's one stop rocket shop!

Look for Rocketsilo 2.0 to attend a number of upcoming launches like Rocstock in Lucerne, CA and Turkey Shoot outside of Las Vegas, NV. "We are going to make every attempt to be at those launches" stated Chuck Pretto. "We are working diligently to get all of our ducks in order to be at those launches." Look for the RocketSilo 2.0 webstore and official launch and grand opening to be January 1, 2002.

DG&A Releases Sonik-Blast Rocket Kit

DG&A has released a new rocket kit called the SONIK-BLAST. The kit is 50" tall and 4.00" in diameter. Also included is a 30" chute and a 38mm motor mount. This kit is great for your level-1 even your level-2 certification flights.

Kit includes:

- Plastic nose cone
- Kraft paper tube airframe
- 1/4" 5-ply Birch fins 1/4" high grade plywood centering rings
- Rip-stop nylon parachute
- Nylon webbing shock cord
- All necessary hardware
- Fin alignment guide
- Vinyl decals
- Fully illustrated Instruction guide

List price:\$78.99 sale price:\$69.99 add \$8.00 for shipping within the U.S. Call for info on shipping international parcel post. Details and ordering information may be found at: <http://www.dgarockets.com>

COSROCS Calendar

Unless otherwise noted, all business meetings are at the Gold Hill Police Station. Stay tuned to the COSROCS web site and listserv for changes in meeting locations.

5 Jan: Winterfest XI, Sky View
 9 Jan: Business Meeting, 7PM
 19 Jan: Sport Launch, 9AM, Peyton
 2 Feb: Sport Launch, Sky View, 9AM
 13 Feb: Business Meeting, 7PM
 16 Feb: Sport Launch, Peyton, 9AM
 2 Mar: Sport Launch, Sky View, 9AM
 13 Mar: Business Meeting, 7PM
 16 Mar: Sport Launch, Peyton, 9AM

	"Home Made"	D12-0/D12-7
John McIntyre	Quasar	B4-4
Max Exline	Zoomie	A10-3T
Jason Unwin	Python	E9-6
	Big Bertha	C6-3
	Alpha III	C6-5
Karina Guerro	Nike K	B6-4
	Nike K	B6-4
	Nike K	B6-4
Danelle Abeyta	Tangent	B6-4
Lawrence Abeyta	Menace	B6-4
Ken Kravig	Tall Boy	C6-7
Greg McIntyre	Alpha	1/2A6-2
	Tornado	1/2A6-2
Walter Guerro	Menace	B6-4
Marisa Guerro	Tangent	B6-4

All in all a good turn out I think. This is just a list of the flyers and doesn't include parents and spectators who came to watch. Hopefully we'll get some more members out our activities. (Question #3, who was the second man to walk on the moon?)

Our launch dates are the 3rds Saturday of the month at the Pueblo Motor Sports Park. Here are some dates:

19 Jan 2002 at 9 AM
 16 February 2002 at 9 AM
 16 March 2002 at 9 AM.

December Pueblo Launch Report

By Jason Unwin

Just wanted to let everyone know we had a successful Model Rocket Day down in Pueblo. Here is the breakdown of participants and rockets flown December 15 2001.

<u>Name</u>	<u>Rocket</u>	<u>Motor</u>
Joshua Mills	Goliath	B6-4 X2 C6-5 X1
Trevor Moores	Goliath	B6-4 X2 C6-5 X1
D'Shawn Herrera	Goliath	B6-4 X2 C6-5 X1
Jesse Valdez	Goliath	B6-4 X2 C6-5 X1
Matthew Sewell	Silver Hawk "Goldie" Goliath Fat Boy	A8-3 X1 B4-4 X1 B6-4 X1 C6-5 X1
Alex Lane	Goliath	B6-4 X2 C6-5 X1
Curtis Lane	Goliath	B6-4 X2 C6-5 X1
Nicholas Murray	Goliath	B6-4 X2 C6-5 X1
Jason Jones	Goliath	B6-4X2 C6-5 X1
Johnathan Allen	Goliath	B6-4 X2 C6-5 X1
James McIntyre	Hijaxx Hijaxx	B4-4 X1 B4-4
James McIntyre	Alpha III	B4-4 X1
Hallie Kravig	"Tall Boy"	C6-5 X1
Robby Bussell	Mean Machine	D12-5 "Lawn Darter"
	"Home Made"	D12-5 X1

G-Wiz MC Flight Computer Now at Pratt Hobbies

Pratt Hobbies is pleased announce the availability of the long-awaited G-Wiz MC Flight Computer! Five years of experience making the outstanding G-Wiz LC series has been brought into play by Rob Briody and Larry Lynch-Freshner (the G-Wiz Partners) in the creation of this unit.

Only slightly larger than the LC, the new G-Wiz MC has mounting lugs that fit the same footprint as the LC. The MC has both an adiabatic pressure sensor and an accelerometer onboard, along with a fast processor and enough memory to record 4 minute long flights. Clamp- type connectors allow you to attach batteries, igniters and Ejection Canisters (or some slightly inferior type of ejection charge). A beeper gives you a status report that you can hear standing next to the launch pad. Two beefy jacks hold the safety shunt in place, which you pull before launch.

A short cable connects it to the serial port on your PC or Macintosh. Once connected, the FlightView software shows off every aspect of the stored data in integrated graphs. Better yet, you're talking to the MC and can get it to do tricks for you. Wondering if your battery connection is sufficient to fire an igniter? Test it by clicking a mouse button. The MC measures resistance through its pyro outputs, so it knows the difference between an open and a short. There's more...and if you look at the MC closely, you'll see a little connector labeled "Telemetry" for future implementation!

The G-Wiz MC Flight Computer comes with serial cable and CD ROM. Pratt Hobbies adds two 9v connectors and the jumper wire you'll need to configure it for low-current operation. Best of all, we're talking under \$200 here...the G-Wiz MC sells for \$194.95.

Visit <http://www.prathobbies.com> for details, pictures and screenshots of the software.



Greg Simonsen prepares his H powered NCR Bomarc.
(Photo by Greg Elder)



The Space Shuttle on display at the Space Center in Huntsville, Alabama.

(Photo by Greg Elder)



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