

The Thrill of Apollo Launches

By Bob Ross



Although I am going to be dating myself, the color of my hair probably gives that away anyhow. Exactly 30 years ago (ugh!!) I was a young, blonde, tan engineer graduating from the Florida Institute of Technology in Melbourne, Florida. Located about 20 miles below Cocoa Beach, it was the college I had chosen to prepare me for my dream of working for NASA. Although the collapse of the Apollo program in 1972 put a roadblock into those plans, the four years spent at FIT were much more than exciting. Heck, it was the late 60's / early 70's, I was living on the Florida coast, hot pants were in, and Saturn Vs were being launched only 30 miles away. What more could any guy ask for?

FIT had its early roots in the hangers of Cape Kennedy when it was known as the Brevard College of Engineering. Initially started to provide higher education for the engineers and scientists at the Cape, it gradually expanded and moved to Melbourne to become a full-fledged institution of higher technical learning. Its link to the Cape was never lost and the school's motto was "*Ad Astra per Scientia*" which translated, means "To the Stars through Science".



The close proximity of FIT to the Cape provided the opportunity to see a number of launches. As a new freshman living in Grissom Hall, I had my first opportunity to witness a launch on October 11, 1968. A classmate from Titusville

invited me up to his "favorite spot" to see the liftoff of Apollo 7. It was a Saturn 1B and finally, after years of watching Mercury and Gemini flights on TV, being able to see a real rocket take off was something I will never forget. What I probably didn't realize at the time was that Apollo 7 was the last launch of a Saturn 1B until the Skylab flights years later. Commanded by Wally Schirra, the mission was the first test of the Command Service Module in Earth orbit.

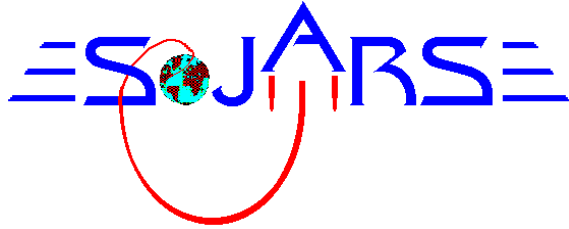
Apollo 8 lifted off on December 21, 1968 while I was home for the Christmas break. This was the "rushed" mission where Frank Borman, Jim Lovell, and Bill Anders made the first manned orbit of the moon. Following this flight, the USA was clearly ahead of the Soviets in the "Race to the Moon".

Back in Florida for my freshman spring semester, the next two launches I saw were from Cocoa Beach. Apollo 9 launched on March 3, 1969 at 11:00 am. Being a morning flight, a group of us had driven up the night before and camped out on the beach. You have to understand that Apollo launches were good reasons for a beach party. Classes were unofficially cancelled since virtually no one showed up so what else were college kids expected to do but *par-tay*. Apollo 9 was a great launch and it was the first Saturn V that I actually saw take-off. It's hard to describe how much you can feel the incredible power of 7.5 million pounds of thrust. Although you are about 10 miles away, the brilliance of the ignition is shortly followed by the palm trees shaking and a deafening roar descending upon your ears. Couple that with thousands of cheering voices and you can understand why seeing Apollo 9 had to be one of *the most* exciting events in my life.

A couple months later, we once again went up to Cocoa Beach when Apollo 10 lifted off on May 18th. Equally as exciting as the launch of Apollo 9, Apollo 10 went on to the moon where the crew of Tom Stafford, John Young, and Gene Cernan performed a

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Altitude! is the Award Winning* Official Newsletter of **SoJARS**, the **South Jersey Area Rocketry Society**, NAR Section #593. **Altitude!** is published bimonthly for the benefit of **SoJARS** members. Information contained in **Altitude!** may be used by anyone as long as proper credit is given. Please visit the frequently updated **SoJARS** website at <http://www.sojars.org> or call the **SoJARS Hotline: 856-424-5905**

Email address: SoJARS@rocketryonline.com

* NAR's Best New Newsletter '99-'00; Honorable Mention '00-'01.

Calendar of Events

SoJARS Meetings

Unless otherwise specified, all meetings take place at the Cherry Hill Public Library, 1100 North Kings Highway, Cherry Hill, NJ. (856) 667-0300. Directions are available on our web site. For 2002, all meetings will be held on the 4th Tuesday of the month, 7:00pm - 9:00pm, in Room A.

Tuesday, July 23, 2002.

Tuesday, August 27, 2002.

Tuesday, September 24, 2002.

Tuesday, October 22, 2002.

SoJARS Launch Dates

Unless otherwise specified, our launch area is at the Gloucester County College. Directions are available on our web site.

Sunday, July 21, 11:00am to 4pm.

Raindate: July 28.

Launch will feature our NAR Sanctioned Local Meet: The SoJARS Summer Challenge 2002.

Events will be:

1/2A Parachute Duration

A boost/glide

Set Duration- 50 seconds

Sunday, August 11, 11:00am to 4pm.

Raindate: None.

Theme, Funtest, Vendor: TBA

GSSS, NAR #439

Launches are usually held on Saturdays each month, 10am - 3pm: Jul 27, Aug 31, Sep 28, Nov 23, Dec 21.

Location: North Branch Park, near Somerville, NJ

GSSS Hotline: (908)-658-9417

Website: <http://www.robnee.com/gsss/>

Garden State Tripoli, TRA #74

Next Launch: TBA.

Location: Cederville, NJ.

Website: <http://www.njtripoli.com/>

METRA, TRA #94

Next Launches: July 6-7, Aug 3-4, Aug 31-Sep 1, Oct 5-6, Nov 2-3.

Location: Barron Farm, Wawayanda, NY.

Web: <http://www.metrocketclub.org/>

Calendar of Events

Continued

PARA, NAR #520

Next Launches: Aug 4, Sept 1, Oct 6, Nov 3, Dec 1.
All are Sundays, 11:00a - 4:00p.

Location: a farm 9 miles north of Doylestown, PA
Phone: You may call Chuck Arkens (215) 855-5599
or David Stoetzer (215) 412-4348 the night before or
the morning of the launch for verification.
Website: <http://www.para520.org>

SPAAR, NAR # 503

Next Launches: July 7, Aug 4, Sept 1, Oct 13, Nov 3
(SPAARSPAM), Dec 8. All are Sundays, 1 - 5pm,
except Sept 1, 9am - 5pm.

Location: Cocalico High School in Denver, PA
Website: <http://www.spaar.org>

Deleware Tripoli, TRA #106

Next Launch: "DARE 2" Oct 4 - 6, 9am - 5pm.
Location: Harper Farm, Rhodesdale, DE
Website: <http://www.detripoli.org/>

Maryland Tripoli, TRA #68

Next Launch: TBA.
Location: Higgs Dairy Farm, Price, MD
Website: <http://www.mdtripoli.org/>

Team America Challenge

Around April 2003.
Specific dates and locations will vary by state, but we
are hopeful that SoJARS will be called upon to host
South Jersey's Fly-Offs.

NARAM-44

NARAM-44 will be held on August 4 - 9, 2002,
in McGregor, Texas. Contest events will include: B
Alt, E Eggloft Alt, 1/2A Parachute Duration, C
Helicopter Duration, B Eggloft Duration, B Boost
Glide Duration, C Rocket Glide Duration, Sport
Scale & Pro Sport Scale, and R&D.

Check www.naram2002.org for details.

Altitude! Deadlines

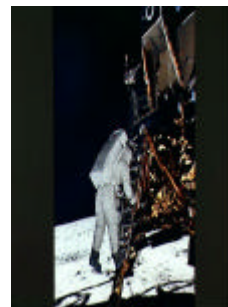
Submissions for publication are accepted
continuously by the editor. The Deadline for the
September-October issue will be September 6.

The Thrill of Apollo Launches'

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test of the LEM and piloted it to within 50,000 feet of
the moon's surface.

I have to admit that I was
back in New Jersey for the
summer when Apollo 11
launched on July 16, 1969.
Trust me, watching a liftoff on
a TV screen is not nearly as
exciting after being there to see
the real thing. However,
missing the launch was soon
forgotten when I, along with
almost everyone else in the world,
watched man's
first steps on the moon. Landing
in the Sea of Tranquility, Neil
Armstrong and Buzz Aldrin spent
about 2 and 1/2 hours on the lunar
surface.



Returning to FIT for
my sophomore year,
my living
arrangements
changed from the
college's dorms to a
beautiful fraternity
house on the Indian River. As a member of Pi Kappa
Alpha, a whole new world of fun and experiences
opened up. Not all of these I would put into print,
but relating to the Apollo program, one of my new
brothers managed to acquire a boat so we could see a
launch closer than from Cocoa Beach. A number of
us traveled up the Indian River the morning of
November 14, 1969 to see the liftoff of Apollo 12.
This was the second lunar mission when Pete Conrad
and Alan Bean landed in the Ocean of Storms.
Unfortunately, the liftoff was not as spectacular as we
had expected. Although we were much closer to Pad
39A than you could get from Cocoa Beach, clouds
rolled in and virtually obliterated the view. We heard
the roar of the launch, but saw absolutely nothing.
Later on we heard that this was the Saturn V that was



hit by lightning. Quick
reactions by Mission
Control saved the launch
and the astronauts went on
to complete their lunar
landing. Interestingly, as
part of the lunar excursion,
the astronauts retrieved
parts from a Surveyor
spacecraft that had landed in
April, 1967.

The infamous Apollo
13 lifted off on April 11,

1970 on its ill-fated journey to the moon. As my fraternity brothers and I stood on the sands of Cocoa Beach, little did we know that about 56 hours later an explosion would occur in a cryogenic tank causing a near disaster for the Apollo program. Fortunately, extraordinary effort by NASA engineers brought the three astronauts, Jim Lovell, Jack Swigert, and Fred Haise back to earth a few days later for a landing in the Pacific. Although the third attempt to land on the moon was unsuccessful, the mission has been referred to as “NASA’s finest hour”.

It took NASA a number of months to figure out what went wrong with Apollo 13 and it wasn’t until January 31, 1971 that Apollo 14 would again try to make mankind’s third landing on the moon. As a junior at FIT, I had just returned from my Christmas break and a group of us once again traveled up the coast to Cocoa Beach. This was a special launch from a human aspect since Alan Sheppard, the USA’s first astronaut in space, was the commander of the mission. Sheppard and Ed Mitchell landed in the Fra Mauro highlands, which had been the destination of Apollo 13.



Apollo 15 was NASA’s fourth lunar landing mission; however I was back in New Jersey for the summer when it lifted off on July 26, 1971. Astronauts David Scott and Jim Irwin went on to land in the Apennine Mountains and as part of their lunar excursions, made the first test of the lunar rover.



Close to the end of my senior year, Apollo 16 was the last Saturn V launch I actually saw. I hate to admit that the excitement was maybe wearing off a little, but we viewed the launch from the Melbourne beach area instead of driving the 20 miles up the coast to Cocoa Beach. It was a beautiful day and on April 16, 1972, Apollo 16 lifted

off to go on to make a fifth landing on the moon in the Cayley-Descartes highlands. An improved lunar rover was used and astronauts John Young and Charlie Duke drove almost 17 miles collecting a couple hundred pounds of lunar rocks.

June, 1972 saw my graduation from FIT and the end of my four years in Florida. By this time NASA and the Apollo program were being drastically cut.

These were bleak times on the “Space Coast” and it was not uncommon to find PhD’s working in gas stations. Cocoa Beach was turning into a ghost town and prospects of finding a job at NASA was slim to none. Although I returned to the Philadelphia area, I still kept in touch with my friends in Florida. On December 7, 1972, NASA launched the last Apollo mission and the guys said it was spectacular. Lifting off at 12:33 am, Apollo 17 was the only nighttime launch and the Saturn V literally lit up the sky. Not only did my friends say that you could see the brilliance of the first stage engines, but also for the first time, the second stage engines. The five F-1 engines in the first stage burned kerosene and LOX to produce the brilliant orange flame. The five J-2 engines in the second stage burned liquid hydrogen and oxygen, which produced a blue flame. Although you could typically see the separation burst, you could never see the second stage blue flame against the blue, daytime sky. Against the night sky, the view was quite different and some of the guys said you could see the third stage also.



Timing in life is everything and when I look back at my four years at Florida Institute of Technology, I have to admit that I could not have picked any better. During my time there I saw 7 of the 11 manned Apollo launches and numerous other smaller launches that went up all the time. As a member of the AIAA (American Institute for Aeronautics & Astronautics) we often went up to the Cape to rummage through NASA stuff for the college. You could go inside the VAB to see the Apollos being assembled and you could stand next to the giant crawlers. It was an exciting period of my life and I will never forget the trips to Cocoa Beach to feel the awesome power of a Saturn V as it blasted its way to the moon.

Acknowledgements for the launch pictures are to NASA via the website:

<http://search.spaceref.com/digital/index2.html>

Information on FIT can be found at:

www.fit.edu

President's Report

By Art Treiman

Dear Sojarians,

July finds us hot and muggy, with lauches threatened by wind, heat, dry grass, neighbors, baseball games, r/c flyers, and terrorism. It's almost enough to make you want to find another hobby. It is quite unnerving when something that is supposed to be a way to relax and have fun is actually a minefield. Unfortunately, we can't change the world we live in. Suburban sprawl will eat away at available flying fields as well as increase the demands on the limited open spaces we have available to us. This is why we must preserve our fields at all costs. As much as we don't want to admit it, model rocketry, like any activity, does have inherent risks. Despite what I think are very good safety procedures and a strict adherence to the safety codes, we have had our share of "events." Just as we teach that the only "safe sex" is no sex, the only way to be 100% safe is to not fly at all. Obviously this is not an acceptable solution. But, the environment (political, legal, in general) is different than it was even three years ago, and so are we. Traffic on Tanyard Road seems to get heavier every week. We get bigger every year (this is a good thing!). What is the point of all this drive? Well, I guess I just am asking for your understanding if I am a little more conservative in what we do, whether it is being more likely to scrub a launch or flying with tighter restrictions. Hopefully the access to the Sorbello farm this winter will help out, but we'll always have sports and flyers at GCC, and subdivisions going up all around us. A field with limitations is always better than none at all. This is the nature of our hobby.

Finally, to add insult to injury, I'd like to mention a disturbing email I received. It was from a Kuwaiti individual asking how quickly he could receive his Level I, II, and III certifications. He simultaneously posted to rnr about how he could get certified using a false identification. This person is either a kid with a bad sense of humor or someone we should be worried about. I would urge anyone who receives or reads similar postings to contact the appropriate authorities.

Well, sorry to bore you all with my rantings, but I think all these threats to our hobby are real. By recognizing them we can hopefully avoid them and keep flying for a long time.

Art

Editorial

By Joe Libby

More great articles liven up the pages of this issue of the SoJARS Altitude! Up front we have the enviable tales of Bob Ross' college days. He also provides us another helpful tip, this time for the field as opposed to the bench.

In the Member's Forum, Steve Bastow relates his single-handed demo event (nicely done!). Adrian checks in from up north (he's in Canada now for those who may not have known) with a review of a rather unique book. Russ relates his competition experience and offers some tips.

Art submits a brief FYI congratulating Bruce, Ed, and Russ for their personal achievements and for boosting SoJARS' standings in competition. Thanks to all and keep those submissions rolling in!

Launch Reports

June 9, 2002

By Barry Berman

The SoJARS launch of Sunday 9 June 2002 was flown under restriction due to an unscheduled baseball game going on adjacent to our flying field at Gloucester County College. To continue to be the best neighbors that we possibly can, and avoid having any of our rockets drift over the baseball field, we limited ourselves to B-powered motors and limited C-waivers for the afternoon. Despite that restriction, and a somewhat breezy day, we still managed to have a blast, the SoJARS way.

The Berman family, represented by myself and my two young sons Zak (7) and Mark (5) managed to put a few birds in the air. Mark flew a Gnome on a 1/2A3-2T and a Bandit on a B6-4. The Bandit gave us the only "out-of-bounds" flight of the day, as the nose cone/chute separated from the body, and drifted over the ball field, landing in foul territory. OOPS. The ballplayers were very understanding about it, and laughed the incident off.

Zak flew an Alpha on an A8-3, and a Maxi Mosquito on a B6-4. This last avoided parachute drift by flying and landing safely without one. As I was basically enjoying the day through my sons, I only flew a Snitch on a C6-3, glad to find I did have use after all for all those unwanted C6-3's I get in Estes "Blast Off Packs."

Ed Blair flew his red and white Estes (?) on a B6-6, and a Venus Probe on a C6-3. (Maybe he wants some of mine?). Kevin flew his Generic on a

B4-4, while brother Philip flew an Gemini DC, also on a B4-4.

Bruce Canino flew a Quest Totally Tubular on a B6-4 and an EZ Payloader also on B6-4.

Billy Commander flew a Wildfire on an A8-3, a Corkscrew on a B6-4, and an R2D2 on an A10-3T in a drag race with Art Treiman. Both lost.

Peter, Jr. flew a Viking on an A8-3 and a Bull Pup on a B6-4. Peter, Sr. flew an Estes Sky Writer and a scratch-built model both on A8-3's.

John Gramick flew a Custom and a Fat Boy both on a B6-6's.

Al Krier flew Der Big Red Max on a B6-4, a Freedom on A8-3, and an Echostar on B6-4.

Brian Kurtz flew his Estes Ionizer twice, using an A8-3 and a B6-4.

Henry Rosenblatt flew a Tristar, a Quest Intruder, and an Estes Bull Pup, all on B6-4's. He also flew an Estes Stingray on a C6-7.

Art Treiman flew his R2D2 on an A10-3T (drag race), an Amram (spelling?) on a B6-4, and a Fat Boy on a B4-2, once again carrying "Space Marine, Flanagan" who landed safely before his launch vehicle did.

Once again we proved we could have a great time flying rockets regardless of the weather or field restrictions.

Members' Forum

Richwood Baptist Church Demo

July 13, 2002

By Steve Bastow

It was a beautiful warm, clear, July evening as I arrived at The Richwood Baptist Church. I was welcomed most cordially by my contact person Valerie Bonvechio, and the other members of the church's vacation bible school staff. I was exactly one hour early for the performance, and I had planned on being much earlier in case I ran into any snags. My first snag was not being able to get my personal work done in time. The snags continued from that point on! The first choice for a launch site was the field adjacent to the church. I got a tentative "Ok" on it, and proceeded to carry about half of the equipment out to the field. In the mean time the farmer who owned the field was contacted. It was then relayed to me that he would rather that we didn't use the field until the next day when he cut the hay. Too bad we weren't slated to be there the next day! Now we had to bring the equipment back to the church-yard, and decide where to set up for the launch. In the middle of all this my cell phone was

dropped in this field of high grass. My most sincere thanks to Valerie for finding it. All of this extra activity ate up the spare time we had, so now we had little time to make a second choice.

The only other alternative was to set up on the other side of the church in a much smaller field. I was assisted by several of the adult members to get this site ready while the kids got their snow cones. This was a ploy to give me a few more precious minutes to get ready. The launch rack, controller, and PA system were out in record time. Five of my best flyers were chosen, and a sixth was loaded for a reserve. I had my dry erase board & several rockets to show the kids as they finished their snow cones under the tent. I must say that these children were some of the most well behaved that I have ever encountered. All 94 of them. Yes, I said ninety four! Congratulations to Richwood Baptist Church for having such a successful program as to get so many kids out to it! The adults only had to raise their hands, and I had their attention. I had planned on an educational session, talking about the science involved in rocketry, etc. When I realized that the majority of my audience was under the age of 10, I decided to keep it simple. It was a good thing because by now I was almost out of my allotted time. With the use of an Estes "Phantom" rocket I explained how a rocket is launched, flies, and is recovered. Short, sweet, and to the point. I have to say again that the kids were GREAT!

Now it was the time they had all waited for. Five of the kids had been pre-chosen to be my launch assistants. One by one they came and helped me push the launch button. First off the pad was the "Razor" by Custom Rocketry. It sailed up and away perfectly on an A8-3. Next up was the "Fat Boy" by Estes. It also was off on a B6-3 and flew rather nicely for being so under-powered. Yes, I was under-powering these because of our small area. Next up was the "Skywinder" by Estes. It might have done more than it did had I instructed the person better on how to put it on the rod. It only went about half way up the rod and stuck there for the length of the motor. It was kind of neat to see it deploy its blades in an upright position and so close. I chose the Estes "Dude" for the next launch, only instead of the prescribed D engine I used one of Estes new 24mm C's. It was a C11-5 and it only took this big balloon rocket about 50 ft in the air, but the kids loved it! Last on the rack was my personal favorite rocket, the Estes "Super Vega." I also under-powered it with a C11. That was a bad move! It came off the rod nicely, but lost momentum much too soon. In fact it blew its ejection charge just after it lawn darted into the ground. As much as it was not the result I wanted, again the kids thought it was great. They

cheered and clapped so much I decided to put out the reserve rocket I had loaded. I very quickly set up the Estes "Big Bertha" with a C6-5. The count down was called only to have a miss fire. I saw the ignitor burn with no engine ignition. This gave me a chance to give the safety procedures for a misfire. I got out of that one kind of gracefully! As we called the launch, the kids all gave me a big round of applause and they returned to the church for the conclusion of their evening.

I was invited in also, and I did join them as they gave their thanks to God for the day, and all the events of it. The adult members in keeping with their theme of "Space 2002," gave a puppet show that was the 4th part of their week-long space journey. I must say that this particular group has extremely vivid imaginations. It is hard to do their display justice in words, but I was amazed by the way they simulated a rocket launch into space. A large section of collapsible foil tubing was used to simulate a rocket. They used a CO2 extinguisher and compressed air from a diver's tank to give the effect of launch gasses. As the flex tubing was pulled up into the ceiling, it appeared as the rocket was moving. Very cool! Again, you had to see it! Their lunar display for the following night was equally impressive.

In closing I would like to thank Pastor Tom Mariner, and the members of the Richwood Baptist Church for inviting us to take part in their "Space 2002" vacation bible school program. Most of all my thanks go out to the kids for being such an anxious, eager, and well-behaved audience! I was a bit nervous at first about putting on the display all alone, but this group made it a most pleasurable experience! Thanks again!

Competition Tips

By Russ Mozier

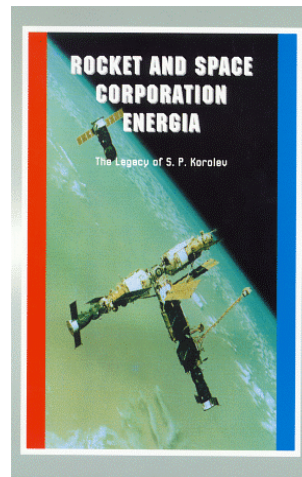
At the last meeting I discussed some of the techniques I use in building models, especially the ones I make for competing. One of the things I talked about was the fact that I finish my gliders with a coat of sanding sealer, sand them and then finish them with a coat of black paint or another dark color. The reason for this is to make the finish smoother thus creating less drag and to make the glider visible to the timers at a greater distance. I was questioned about the increased weight due to the weight of the paint. My answer was that you had to weigh the advantages of less drag and increased visibility against the disadvantage of increased weight. I did not know how much the weight was increased at that time but since then I have done some studies and here is the result.

For this test I built a boost glider with a wing area of 32 square inches. The raw glider weighed in at 11.3 grams. After one coat of sanding sealer and sanding the weight increased to 12.3 grams, an increase in weight of 8.8% and after a second coat and sanding the weight increased to 13.3 grams, another 8.8% for a total increase after two coats of 17.6%.

Another subject I discussed was using Titebond glue. On smaller models, especially gliders, I prefer using what I referred to as Titebond glue. I use Titebond Wood Glue made by Franklin. This is a yellowish colored wood glue somewhat thicker than Elmer's White Glue with a shorter tack and drying time. I prefer Titebond because it gives me a lot more working time than CA. When building a glider I use jigs and blocks to hold everything square and true while the glue dries and this gives me the time to adjust everything. I also use Titebond and CA together, making the initial joint with Titebond and then using thicker CA along the joints for reinforcement. I have not noticed any problems using CA on top of Titebond.

Rocket and Space Corporation Energia The Legacy of S.P. Korolev

Review by: Adrian Liggins



"Wide-eyed amazement" best describes my initial reaction to this extraordinary 7" x 10" format paperback. The opening text and accompanying 103 pages of images (both published completely in English for the first time) chronicle the history and achievements of the Russian "Energia" Rocket and Space Corporation, from its

beginnings in 1946, under the leadership of chief designer Sergei Korolev, to the present day. While Energia was responsible for much (and certainly the most recognizable pieces) of the major hardware used in the Soviet/Russian space program, it is interesting to note that this was only one of several such corporations. That the detailed text reads somewhat like a promotional piece is probably due to this competitive history.

The color and black-and-white images in this book are as stunning as they are rare (this collection only having been previously available at Energia's private museum in Moscow) and contain many surprises. For instance, I had always put the artist impressions of launch vehicles, which were often found on newspaper articles, stamps and postcards, etc., of the early manned missions (and which bore no resemblance whatsoever to the vehicle actually used) down to pure romanticism. I was, therefore, astounded to see these familiar shapes in pictures of early test-vehicles, both on the pad and in flight, looking like something from a 1950s science fiction film.

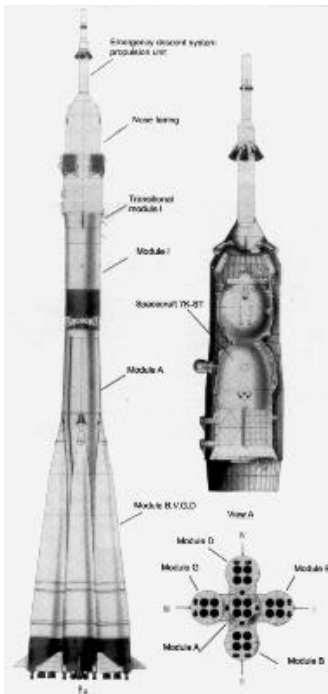


Other highlights include: the early unmanned, manned, and canine missions; the massive N1 launch vehicle that was to send a Russian mission to the moon, plus the lunar orbiter and landing craft; the various interplanetary probes (for the Moon, Mars and Venus); the various space stations (Salyut and MIR); and the Soviet shuttle, "Buran".

The numerous photographs of hardware under construction, on the pad, or in flight are accompanied by many fascinating and beautifully rendered cut-away drawings, with labels translated into English.

As such, the space enthusiast, modeler or collector is provided with a wealth of reference material at a level of detail that would have been inconceivable only a few years ago.

With my long-standing interest in the Soviet/Russian space program, this remarkable book has quickly become a much-treasured addition to my collection. Here's hoping that the other



Russian corporations follow suit and publish their own photographic records.

Rocket and Space Corporation Energia: The Legacy of S.P. Korolev. Apogee Books, Burlington, Ontario, Canada L7R 4K2. www.cgpublishing.com ISBN 1-896522-81-5. 2001. 128pp. US\$19.95

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SoJARS Excels at RAMTEC

Submitted by Art Treiman

Congratulations are in order for SoJARians Bruce Canino, Ed Romani, and Russ Mozier for great showings at RAMTEC 10, hosted by SPAAR the weekend of June 15-16.

Bruce placed FIRST in Set Altitude. Ed Romani placed 3rd in helicopter, and Russ, in his first competition, placed 2nd in rocket glider and 2nd in set altitude (Bruce beat him by 12 inches in a 175 meter flight!). For the rest of us, they racked up a 4th place finish for SoJARS! Great job guys, it sounds like in was a terrific time. They'll be sharing all the juicy details with us at the next meeting.

First Competition

By Russ Mozier

I guess if you want to begin competing with a bang you should start at a regional or national level. Since I cannot attend NARAM this year I chose to begin with RAMTEC-10, a regional event held at deSales University in Center Valley PA (near Allentown) on Father's Day weekend each year. This year RAMTEC-10 was held on June 15th and 16th.

My wife Pat and I drove to Allentown on Friday, got a room and then went over to the site to register. While we were there we discovered that a Shakespeare festival was going on and we got tickets for that evening to see "The Complete Works of William Shakespeare in 100 Minutes," abridged of course. It turned out to be an extremely funny play put on by three actors.

We arrived at the flying field at 8am Saturday morning and set up our canopy and prep area. We met up with Ed Romani and his wife Merri, and Bruce Canino, the other members of SoJARS who were there competing.

There were five events to compete in, 1/2A Parachute Duration, A Rocket Glider, B Helicopter, Set altitude and Sport Scale. I planned to compete in all of the events except Helicopter since I was unable

to finish the helicopter rockets in time for this event. My first competition flight was 1/2A Parachute Duration and what a disaster; the delay charge burned through and the parachute ejected about 20 feet off the ground, the parachute opened and I got a qualified flight with a time of 6 seconds. On my second flight the shock cord was pulled off the rocket and I got a DQ for separation. The next event I flew in was A Rocket Glider. I chose to fly a slide wing glider by QCR with minor modifications. This is a rocket where the wing is held to the rear by a thread and acts as fins during launch then when the ejection charge goes off it burns the thread and the wing is pulled forward into the flight position by a rubber band. There is a lot of mechanical working during the flight and I wasn't sure what to expect. The first flight was beautiful, it made my day. The rocket made a straight takeoff and just after apogee the ejection charge fired and burned the thread, I could hear the wing snap into position and the rocket went into a near perfect glide making about a 60 foot or so circle to the left. My time for that flight was 46 seconds. I removed a little of the weight on the wing for my second flight and my time increased to 57 seconds. I was really impressed with the performance of that rocket, making a successful flight is one thing, having mechanical elements work well in flight is another. I placed second in that event.

Set Altitude was flown at the end of the day in a two hour window with only one flight allowed per person. The object of this event is to attain an altitude of as close to 175 meters as possible. I flew early in the event and was tracked at 173.3 meters. I held the lead until towards the end of the launch window when Bruce Canino flew and was tracked at 173.6 meters, he beat me by 0.3 meters (about 11.5 inches!!) SoJARS came in first and second in that event. Sport Scale was judged Saturday afternoon and evening and the flights were made on Sunday. My entry was a YAIM-120A, a Navy version AMRAAM. I finished in the middle of the entries. Saturday evening there was a barbecue behind the dorms with lots of hot dogs and hamburgers with all the trimmings.

I learned a lot at this event, I asked a lot of questions and got a lot of answers. Everyone there seemed to want to help. The event was really well organized, a lot of credit goes to Glen and Rita Feveryear of SPAAR and all of the other members who made this a top quality event. I'm planning on more competition in the future. The bug has bitten.

SoJARS Results at RAMTEC-10

Set Altitude

Bruce Canino 1st
Russ Mozier 2nd

A Rocket Glider

Russ Mozier 2nd

B Helicopter

Ed Romani 3rd

Individual Points

Russ Mozier 5th
Ed Romani 6th
Bruce Canino 7th

Section Points

SoJARS 4th

Bob's Modeling Tips – 2002

By Bob Ross
NAR 75320
Tripoli 7904

Launch Preparation

This month I am going to take a break from modeling tips and give a quick tip on launch preparation. As some of you might have noticed, I tend to launch a number of rockets at our monthly meets. There is a good reason for this, I prepare ahead of time.

Either the night before or the morning of the launch, I take a couple of hours to prepare each rocket that I plan to launch. This includes the following:

- Check all fins for damage or separation from the body tube
- Check the shock cord for damage
- Select and install the motor (no igniter)
- Load the wadding (either Estes tissue, insulation, or a combination)
- Fold and load the parachute
- Fill out the launch card

The only thing I do not do ahead of time is install the igniter. This is the one step I do prior to taking the rocket to the pad.

It's surprising how much time all of the above takes – I estimate about 10 minutes per rocket. When you multiply this by 8 to 10 rockets, it comes close to a couple of hours. Since we generally launch for about

four hours, it doesn't take a mathematician to see that you can gain a significant amount of flight time if you prepare ahead of time. Plus, you can do it in the comfort of your home.

That's it for this issue. As always, if you have any comments, questions, or suggestions, don't hesitate to contact me via e-mail, at the meetings, or at the launches.

SoJARS Summer Challenge 2002

At our July 21 launch we will hold our second NAR Sanctioned Local Meet, the SoJARS Summer Challenge 2002. Events will be:

1/2A Parachute Duration
A Boost Glider Duration
Set Duration - 50 seconds

Even if you've never competed before, we encourage you to give it a try. Official rules are available in the NAR "Pink Book" which can be obtained from the NAR, requested via email at NAR-HQ@nar.org or online at www.nar.org/pinkbook.

Meeting Minutes

May 27, 2002

Submitted by Art Treiman

Present: J. Duffy, B. Ross, S. Bastow, J. Libby, B. Canino, B. Berman, J. Coles, A. Treiman

1. Open - A. Treiman
2. Review and approve previous minutes (pending)
3. Treasurers Report - J. Coles: \$105 cash, \$277 in bank.
4. Future Launch Dates - June 9th w/ tentative rain date June 23. August not available.
5. Launch and Failure debriefing - Oy! Discussion of John Coles 24mm Mars Lander. It joins several of its cousins.
6. Newsletter - Joe Libby: Deadline 7/6/02.
7. Web update - Paul DeCrane: Discussion of POW! - this is free software that, once you train it, eliminates popups. **Download at <http://www.analogx.com/contents/download/network/pow.htm>**
8. Design of the Month Contest - Winner Bob Ross's Estes Argosy! Congratulations Bob!
9. Update on field search - Woo hoo!!! We likely have a farm! This winter, if all goes well, we'll be flying from a 600-acre farm in Swedesboro. Details to come in the future.

10. Outreach - Some day Sharon's scouts will actually fly!
11. Theolodites - Thanks Russ Mozier! They'll likely be tried out soon.
12. Contest Committee report - Tom Mitchell: events for July: 1/2A PD, A B/G Dur, Set Dur
13. AIM - Art's still working on it
14. T-shirts - J. Libby
15. GSSS Event June 22.
16. Library update - Cherry Hill library will be building an entirely new building over the next couple years. Art met with them and saw the plans, which should be pretty cool. Meeting space will still be present in the new building. The library also asked if we would do a display in the display case outside of the periodicals room. Any volunteers would be appreciated.
17. Bob Ross - "Jus Watchin the Moonshots" - Bob Ross gave a neat talk. As a student near Cocoa Beach during most of the time of the Moonshots, Bob saw several of the Saturn launches from various locations, as close as a couple miles away.
18. Adjourn.

June 25, 2002

Submitted by Art Treiman

Present: A. Treiman, B. Berman, S. Bastow, B. Jonas, R. Mozier, J. Libby, E. Romani, B. Canino, R. DePasquale, B. Ross.

1. Open - A. Treiman
2. Review and approve previous minutes (pending)
3. Treasurers Report - J. Coles: tabled till JC is present
4. Future Launch Dates - July 21st w/ tentative rain date the 28th.
5. Launch and Failure debriefing - Discussed the problems with the ball game and high winds. Due to the poor conditions we decided to waive the launch fee. If you paid and/or had your card stamped let the sign-in person at the next launch know.
6. Newsletter - Joe Libby - Deadline 7/6/02.
7. Web update - Paul DeCrane
8. Design of the Month Contest - Apologies to winner as the "secretary" neglected to note the winner.
9. Update on field search - Update on Sorbello Farm: looking good, but we won't be discussing w/ them 'till the fall.
10. Outreach:
 1. July group demo - S. Bastow.

2. August all day session - B. Canino, P. Commander.
3. Sharon's scouts finally coming in July.
11. Contest Committee report: Tom Mitchell, events for July: ½A PD, A B/G Dur, Set Dur - 50 sec.
12. T-shirts - J. Libby: still plenty left!
13. Ramtec - GREAT JOB to Russ Mozier (5th place), Ed Romani (6th place), and Bruce Canino (7th place - out of 20 competitors). As a result of their efforts Sojars placed 4th of 10 sections represented. Thanks, guys!
14. New business - discussion on changing launch time. Advantages: Less wind, avoid other activities on fields, run errands before launch Advantages of earlier: Home for dinner, avoid pm T-storms. A couple folks suggested variable launch times depending on forecast conditions. (ed. Thought... it's a wash, so leave as is as it seems to work for the most part). Final decision left it up in the air. It seems that any time has advantages and disadvantages. We may change as the seasons dictate. For July we'll stay the same (11am start).
15. Robert Heinlein Blood Drive 2002 - B. Berman: every year, to honor this great writer, the Heinlein Society has a blood drive. You can donate at any Red Cross center and if you let them know you get a nice little thank you from Mrs. Heinlein.
Details at www.heinleinsociety.org.
16. "99% Harmless Nerd" T-shirt sale - E. Romani: Ed has decided to honor the BATF's position that rocketry hobbyists are "99% Harmless Nerds" with a very stylish T-shirt offering. You can order at <http://home.earthlink.net/~evereddi/bluesky.htm>. Or, if you don't want to look at Ed's picture on his website, you can email Ed at beacon1040@earthlink.net.
17. In the continuing effort to promote safety in the hobby, mention was made of Winrasp. This terrific, free program allows simulation of a rocket flight so you know if your motor/rocket combination will fly safely. Download at: <http://ourworld.compuserve.com/homepages/CGibke/wrasp.htm>.
18. Adjourn.

Photo Finish



Ed Romani's Level 1 Certification flight. "I feel the need for speed!"

(Of course it's never as funny when you have to explain a joke, but for those of you who can't make it out, there's a "Speed Limit 30" sign above the "Your Speed is..." meter. 0 to 256 mph in about half a second! Can your F-14 do that Maverick?)