



Aeronaut

The Newsletter for the Association of Experimental Rocketry of the Pacific

Triplou Rocketry Association, Inc. Prefecture no. 23

May 2001: Volume 13, Number 2

First Commissioner's Corner

Welcome again to another AERO-PAC season. People from every skill level seem to be real excited about all the projects they are working on. I've been getting a lot of calls from people all over the US asking about our launches. We have someone from Ohio coming to MUDROCK with a big two stage project, and another person from Michigan flying his M motor project. The guy from Michigan is great. He's like all of us. He keeps rushing home from work so he can get down to the basement to "work on those darn rockets."

John Coker is working on a HUGE and spectacular 6 M cluster booster and a long burn second stage.

I've finally finished up my ATV set-up with the much appreciated help of Rob Briody. I'll launch the TV set-up in a modified ARLISS rocket at MUDROCK and in October it'll go in a cluster M booster to N second stage.

For a nice little ATV Quicktime video on a remote control plane, go to <http://www.supercircuits.com/index.html> and scroll down to the 1.4 meg airplane file.

Ken Adams is putting together his L3 rocket along with Tom "Bubba" Cloud.

Lots of good projects coming up.

FAA WAIVERS-

Bob Fortune secured the waivers already. AERO-PAC has the necessary FAA paperwork for the season! Thanks Bob. See the waiver posting in this issue for altitudes.

BLM PERMIT-

AERO-PAC was in a bit of a pinch this year trying to get the Environmental Assessment for launching in Black Rock. It seems Clintons wilderness agenda effected Black Rock. No longer could we fill out a three page EA application to secure the 5 year permit. In fact, we had to draft up a whole EA under the current standards. With the help of Ranny Mitchell and his brother-in-

law, the three of us sent off a biggie to BLM for the Environmental Assessment of rocketry in Black Rock. It should cover anyone wanting to launch there, such as BALLS and JP etc. They are still reviewing it, but have given AERO-PAC the go-ahead for this years launches!

NEW TRAILER

Steve Preston and Bob Fortune have worked hard at setting up the new trailer. In fact, they have mounted the PA system and the launch controller on a cart that is wheeled out to the LCO station with no set-up hassles! What a great idea. Set-up and take-down time will be reduced greatly.

PRO RAIL EXPANSION

The club is expanding our support of PRO Rails. We will have several at the mid power pads and several at the high power pads. Please remember to thank John Coker for his donation of 2 (YES 2!) PRO rail pads last year.

SPEED CONTEST

This has got to be the best idea and contest ever. I was impressed with the projects and people from Washington State that attended our launch last year, so I challenged them to some kind of contest. Kimberly Harms returned with a "speed" contest. Now, this really promises to be worth participating in, and for sure, watching. You'll need a recording accelerometer like RDAS, ALTACC, Cambridge (If you are real brave) or the upcoming G-Wiz unit. I will enter a minimum diameter Dynacom, complete with a 98 mm Blue Thunder M-2500. My last 98 min. dia. ripped the fins off and shredded apart, even with carbon reinforcing. Lots of nasty forces at those high speeds.

Adam Gervais has a 38 MM min. dia. bullet. That might take the award. So, step up to the plate and swing at the speed contest.

UNIVERSITY PROJECTS

ARLISS will have many upbeat electronic "satellite" entrants this year. University of Tokyo, Arizona State University and

Stanford will launch in the open class field (meaning that each rocket will carry only one CANSAT occupying the entire payload bay instead of the normal 3 per payload bay. Bigger projects!)

ASU will be expanding on the GPS guided parafoil. They want to land the satellite at a pre-programmed GPS location via autonomous control of the parafoil.

Stanford and U of Tokyo will first land their open class projects then detach them from the parachute and then have the "rover" drive back to the pre-programmed GPS coordinate!

WHEW!!

Each year there is a need for more rockets in which to launch these students projects. Please consider getting involved. (Gotta have that L3!!)

Pius and William really made the project a success. Many thanks to them for the much appreciated time spent.

CUBESATS

One other thing the Universities are up to this year is building real satellites. There are 18 satellites being launched from Russia this November. It might be a consideration to get some AERO-PAC members to attend! Professor Twiggs and all the rest will be there. And, if you are a HAM radio buff, you can tune in to the satellites when in orbit. Leland High School and Wilcox High School will be the first high schools in history to have a real satellite in space.

NIGHT LAUNCHES

This year we are holding more night launches. Bring along some spare parts and put together a rocket. Go to Radio Shack and buy a cheap strobe to put in the nosecone (Yes, it shines through fine!), or pull a Bob Fortune and place some glow sticks on the parachute to make a real interesting light show. Kind of like a jelly fish in air. Nice.

(continued on page 2)

First Commissioner's Corner (continued)

CLUB FEES AND FINANCIAL STRENGTH

Every year we seem to get more and more people at the launches. And they are not AERO-PAC members, just spectators, friends, day lookers, RVers and family members. They all still have an impact on our porta potties and now, they will be impacting our BLM fees. We are being charged by the BLM per day/per person at the launches. We can not say to the BLM that there was only 50 attendees (the actual member count) while having 200 people there. We have to pay for the people at the launch under our BLM permit.

The only option is to raise members dues a lot to cover this, or ask for "donations" from the non-members. We can not go to the extreme of setting up an entrance gate nor can we police everyone with bracelets or wristbands, or set-up a watchman at the potties. We can however ask rather strongly, that those people attending the launch "donate" a minimum of \$5.00 per day for the use of the potties and to cover the BLM fees we have to pay.

Please remember to drop a few bucks in the donation bin for your friends and family members who come along. We might be able to cover the BLM fee this year then! (It has doubled in the last several years)

Please also be kind to Richard Amstedter and pay your dues for the year prior to the launches. Richard gets real busy with paperwork otherwise.

If there is someone who would like to help Richard at the Treasurers/registration table, contact myself and Richard. You get to talk with all kinds of rocketeers from all over. It's a hoot. And you get a seat right in the middle of the action!

Renewal Note

If you wait to join AERO-PAC at a launch, you will have to pay for that launch registration *and* membership dues. Therefore, you should join early to maximize your savings. This also helps out the club with cash flow and makes the treasurer's job a lot easier.

A renewal form is available on the web site.

TESTING

For those of you who will be taking your Level 2 tests this year, please contact me ahead of time to advise me when you wish to do so. We have meetings which are a better place to take the test than at the launch, but either way works fine.

Remember to bring the Tripoli certification paperwork!!!

REMINDERS

1- Always check your igniters prior to attending the launch and at the launch

2- On those large rockets and L3 projects-
GROUND TEST YOUR EJECTION

CHARGES! (Just hook up to a 9 volt battery and stand back. The back yard works better than the front yard. Neighbors freak)

3- Always make a check list for those complicated projects. Ever see someone launch without turning on the electronics?? (Yours truly).

4- Clean up that darn trash!

5- Order motors waaaay ahead of time. A big season coming up. (Maybe the REDLINE motors soon if TMT gets them certified)

NEED FOR BOARD MEMBER(S)-

After four years on the board as Launch Director and Prefect, I'm calling it quits for a while. Term limits, you know! I'm beginning to feel like Jesse Helms.

There will be a need for Board members next year. (Well, at least one!)

It's your club, so please volunteer to get involved and help out the club.

Be good and attend all three launches!
Tom

2001 Launches

We now have our FAA waivers in hand and preliminary B.L.M. approval. For EX launches some setup will be done on Thursday and completed on Friday afternoon for the regular launch.

June 22 Mudrock-EX

*Experimental Launch**

June 23-24 Mudrock 8.0

Setup Thursday 21st

BLM cleanup at 1:00 on Friday

August 24-26 Aeronaut 2001

(A Space Odyssey)

ARLISS launches

Setup Thursday 23rd

Night launch on the 25th

October 5 BlackRock-EX

*Experimental Launch**

October 6-7 BlackRock XIII

Setup Thursday 4th

Night launch on the 6th

Only biodegradable wadding (no fiberglass) may be used at the Black Rock Desert due to environmental reasons. AERO-PAC Range Safety Regulations will be enforced at all AERO-PAC high power launches. Launch information available upon request from Tom Rouse via E-mail tomr@aeropac.org or telephone in the evenings at (408) 997-9586. Safety Regulations are available at the AERO-PAC web site <http://www.aeropac.org/aeropac/>. You will be required to sign the Tripoli and AERO-PAC liability waivers prior to launching any rockets.

*Only rockets that carry at least one experimental motor will be permitted at experimental launches. Due to the increased risk of an experimental launch and to stricter rules for Tripoli sanctioned experimental launches, no spectators or children will be allowed at AERO-PAC experimental launches. All attendees must be Tripoli members and all must pay the launch fee.



Tripoli Fresno and AERO-PAC March Altitude Contest - The Raisin Fly Off

Tripoli March Launch a Huge Success

By Mark Canepa
(from TCC's monthly bulletin, thanks Mark!)

Tripoli Central California's March launch had it all-- an altitude contest between our local chapter and the flyers from AERO-PAC, great flights, clusters, CATOs, multi-stagers, core samplers and more than 125 flights under clear blue skies on March 18. More than 200 people attended what turned out to be the largest single-day blast since October at the Maddox Dairy in Riverdale.

The long-awaited altitude contest between legendary AERO-PAC and Tripoli Central California found our local flyers getting the best of the out-of-towners, 2 victories to 1. Rod Lovley (president) brought home the gold in the 10,000- foot contest with his venerable "Glassy-winged Sharpshooter" which reached an altitude of nearly 10,600 feet on a K185. Lovley just barely beat fellow local club members Gary Vielbaum and Mike Sutton with their aptly-named "Spirit of Central California," which reached a cool 9,299 feet on a J570.

Bob Fortune of AERO-PAC, who started the whole contest going with his email challenges back in late January, defended the AERO-PAC honor firmly with his claim of first place at 7,500 feet with "Wicked Flash" on a J570, which reached more than 7,800 feet.

Meanwhile, both Gary Vielbaum and local member James Marino split honors for the mile high prizes with Vielbaum's "Sudden Rush" on a J350 and Marino's Cherokee on a J800. Vielbaum's flight came in at 5,269 feet per his Altacc and he seemed a shoe in for the prize. But his Altacc also registered a barometric altitude of approximately 4,400 feet.

Marino's flight came in at just over 4,800 feet, so it seemed fair to split the prizes between these two great flights. Fellow local member James Grover would have been in the hunt as well with his PML Aamraam on a J275. Unfortunately, Grover's rocket was lost for more than two hours and he could not get the download from the Altaac until he returned home. But his final altitude was just slightly more than one mile!

There were many spectacular flights, and crashes, on March 18. The undaunted team from Cal Poly San Luis Obispo returned yet again with their infamous "Star Booster" for another attempt at a successful flight.

The shuttle-like craft was quite a sight. The rocket vehicle stood nearly 10 feet tall and weighed in at more than 70 pounds at take-off. The blast off from the away pad was tremendous. The rocket boosted on an angled trajectory on a powerful M1939-the largest motor of the day, but the glide path never materialized and deployment failed as the booster returned to the ground in a flat spin for a hard landing. Still, it was a

rocket to behold in terms of size, ingenuity and sheer power.

What went wrong?

According to Dianne De Turriss of Cal Poly's aerospace engineering department, this demonstrator of a reusable rocket vehicle climbed to more than 3,000 feet when the left canard suddenly "departed" the vehicle and a flat spin then developed. Unfortunately, the emergency parachute system also failed and the rocket had quite a hard landing, said DeTurriss. But the rocket was intact.

Subsequent investigation revealed that improper attachment of the canard was the most likely cause of the crash, she added. De Turriss and the undaunted crew from Cal Poly hope to correct the problem and return to the dairy for a repeat launch in either April or May.

There were a number of K motors on hand for the launch, most supplied by Karl Baumann who was busy much of the day with high-power reloads. David Weinschenker "KISS-Beta" had a good flight on a K1100. Richard Salinas sent up the top of his planned Level 3 rocket for a good flight on a K700 and Terry Swift had a great-looking missile with his BSD Thor on a K550.

Swift's Thor was sporting one of the flashiest paint jobs at the launch. It was equipped with electronics by G-whiz and at only 11 pounds, it had an estimated altitude of nearly 5,500 feet with computer simulations. Regrettably, it turned out to be the CATO of the day. At only 100 feet up it erupted at both ends in fire and smoke, twisting and turning as the K550 ran its course. The rocket returned to the ground in a burning heap at a safe distance from the crowd, a total loss. Back to the drawing board! Swift was not alone with his disaster, however.

Mark Canepa's PML Aamraam had a spectacular takeoff on a J415 only to shred into a million pieces at 1,000 feet up. The rocket's electronics and the 54/ 1280 casing were recovered unscathed. But not a single piece of the eight fiberglass fins was found.

The lawn dart of the day also flew under K power. New member Mike Yates had several launches on March 18 but the most memorable was his flight on a K1100 Yates' Green Hornet shot off the pad for what appeared to be a perfect flight. But the 16-pound rocket developed a big problem when it separated at altitude but failed to deploy the parachute. The rocket dove in and darted several hundred feet from the flight line, with the booster sticking straight out of the ground for all to see! Yates 54/ 1706 casing was also ejected from the rocket

2001 Schedule

- June 9** Members meeting 1-3pm at Portal
- June 22** Mudrock-EX - Black Rock Desert
Experimental Launch
- June 23-24** Mudrock 8.0 - Black Rock Desert
BLM Cleanup Party from 1:00 on Friday.
Setup Thursday 21st.
- August 11** Members meeting 1-3pm at Portal
- August 24-26** Aeronaut 2001 (a space odyssey)
We'll be doing Arliss launches at this launch.
Requesting waiver for night launch on the 25th.
Setup Thursday 23rd.
- September 29** Members meeting 1-3pm at Portal
- October 5** BlackRock-EX - Black Rock Desert
Experimental Launch
- October 6-7** BlackRock XIII - Black Rock Desert
Requesting waiver for night launch on the 6th
Setup Thursday 4th.

The launch dates are now firm as we have our waivers in hand. Great work Bob!

The Raisin Fly Off (continued)

at altitude, but fortunately, it was recovered. Amazingly, other than collecting a worm-filled core sample, the rocket sustained little permanent damage.

The weather on March 18 was perfect. When the first flight took to the air at 10:35 a.m. the temperature was in the mid-60s. By the end of the afternoon it was in the mid-70s. There were several clusters on March 18 and also a couple of multi-stage high-power flights.

Jeff Engelman's familiar LOC Magnum took a shot at the mile-high contest with a J135 and 2 H180s. The H180s failed to light, however. But it was still a good flight with no damage to the Magnum. Richard Salinas also flew a H124s in his "Cyclops" for a great flight.

Two-stage rockets included Richard and David Amstadter's "Changeling" on an 1284 and H112 and Nathan Hayes "This End Up" on a K185 to a K700. Hayes' rocket was unusual in that the long burning and less powerful K185 served as the booster and the K700 was the upper stage motor. The flight started off well with the K185 lifting the rocket off the pad slowly for a full seven seconds of boost. Unfortunately, the K700 failed to light. Still, this is a good combination if it works.

There was a lot of family activity at this launch. The Salinas clan was out in force with numerous spectators and flights from Richard, Melissa, Thomas and Sarah (is there anyone in that family who does not fly?). Other family flyers included Dale, Steve and Renee Soutas, as well as Arlyss, Harkin, Jeanette and Nathan Hys. The Abrames family was there as well as the Marinos. Rose Marinowas on hand to assume her usual duty as queen for the day.

There were 126 total flights, according to the flight cards, in a little more than four and a half hours.

None of this could have been accomplished without the help of the following people: Duane Brimhall took check-in duties for nearly the entire day, taking in at least 18 new club members and explaining the rules to dozens more.

Bruce Rohn spent most of his afternoon at the RSO table, along with Dick Moradian, and Darren Boyaiian. LCO duties were split among Richard King, Mark Canepa and Lowell Hart. Rod Lovley and Rick Snow worked several aspects of the launch.

One of the strangest things that happened at the March 18 launch was three rockets becoming entangled in the high-power lines several hundred yards south of the RSO tables. The first rocket to get caught was Richard and Daniel Amstadter's "Changeling", a nine-foot tall two-stage cre-

ation that took to the air on an 1284. The rocket weighed in at a mere eight pounds and really fired off the pad. The second stage, powered by an H112, lit well and carried the rocket up for a great flight. On the return trip to the ground, however, the rocket was caught on power lines, as Richard stood by helplessly. Within a short period of time, two more rockets became stuck in the lines. Fortunately, PG&E-arrived after a brief wait and the rockets were all returned to their owners.

There were more than 50 Estes launches. These included flights by frequent flyers such as David Brimhall, Alex and Jackie French, Casey Moser, Chris Murray and Mikey Smith.

Tripoli Central California has launches on the third Sunday of the month throughout most of the year. The next launch will be April 15, followed by the upcoming two day annual event, Dairy Aire, the third weekend in May.

Here's what really happened ...

By Bob Fortune

Those of you on the AERO-PAC listserver know of the trash talk that went on back and forth between our two clubs. When things started to die down a bit I tossed in a couple of insults to the TCC list and forwarded some juicy barbs from the Fresno crew. Needless to say, it was very fun. The raisin twaddlers and alfalfa biters of Fresno will never be the same.

Tom Rouse (your fearless prefect) and I (Number Two) had been talking in January about getting people interested in flying rockets over the winter season. We tossed ideas back and forth and settled on a two club launch on Fresno's turf in February or March. To make things interesting I started collecting prizes, bounced a couple of emails around, and started stirring the pot. It was set for the March launch and it couldn't have been a better day!

We had an Adept altimeter and a box of smoke candles donated by Nate Hayes and family, an Igniterman kit from Rob Briody, and a gaggle of parachutes from me and Aerocon (see us on the web at www.aeroconsystems.com). With prizes in hand all was set for a great day of flying.

Karl Bauman was already on site as the motor vendor of choice. Adam Gervais had set up down the flight line a bit, Richard Amstadter and his son showed up in the nick of time, and Tom Rouse and Rob Briody rolled in about noon smelling of McDonalds. Tom Cloud was there with his lovely daughter as was Nate and Annette Hayes with their great bunch of kids. I drove down with George Delli-Santi and my son Greg and met a buddy there, Chris

Atteberry.

Greg, my 9 year old, was enthusiastic about selling soda pop and snacks to the people attending the launch. His previous forays into front yard sales garnered him a couple of customers with most of his 25 cent "Refreshing Beverages" ending up inside him instead of in his customers. (the kid two doors down selling the "Refreshing Beverage Antidote" for 5 bucks a whack really cleaned up.) He had a great time making change, chatting with the customers, and playing with the other kids up and down the flight line.

As you can see from the TCC article, Richard Amstadter wowed the crowd with a rocket hung from the power lines. He couldn't get it to loop but what the heck. Nate Hayes launched a couple of rockets but saved the best to last, a two stage K combo with a slow burning K on the bottom and a quick one on top. It would have made for a spectacular (and unfindable) flight had the sustainer lit. Tom Rouse flew a PML quantum tubed creation that rekked itself midair. Not sure if Rob Briody flew anything, he spent most of the time yakking with Karl.

The altitude competition was a pretty poor showing for the AERO-PAC group. Unfortunately I'm the only one who placed in the 7,500 foot category and no one touched the one mile or 10K foot mark. Maybe the alfalfa, corn, and vineyards threw everyone off - we're not used to seeing that stuff out at Black Rock. Yeah, that's the ticket.

George Delli-Santi flew an experimental reefed parachute system in a 54mm rocket (deployment by R-DAS) which popped at apogee and at 800 feet but the reefing system hung up under canopy. When he picked the rocket up off the ground it shook loose all by itself, isn't that how it always happens?

So the Fresno Boys went home with the AERO-PAC goodies, they beat us 2 to 1. The prize for taking the 7,500 foot mark was 50 bucks so it paid for my J570 motor which was pretty cool. I had a wonderful time as did most of the people at the launch. Fresno is a great place to fly and only a couple of hours from the bay area, if you haven't been it's worth the drive just to check it out. The people in this club are a friendly and helpful bunch always willing to have a laugh and good time. Next launch at Fresno is the May 22 Dairy Aire fest which promises to be something special.

By the way, congratulations to George and Michelle Delli-Santi on their new little rocketeer, Jack!

See y'all at Black Rock

Project Highlights

Aerobee 170 by Mark Mazzon

I am coming out to Mud Rock this year with a 1/2 scale Aerobee 170. I have flown the Nike Smoke part of the project twice now. Both attempts were on a cluster of 3 J-570's. The first time the rocket, which weighs 37#s without motors, lifted off on one J-570.

The second lit at about 100' and the third never lit. The dual e-matches of the igniter blew a hole through the pyrogen but never lit it. I still got 1100'. The last flight I got two motors lit on the ground and the other one at about 100'. This flight was about 2400'. I was amazed how the rocket performed on the single J-570 during the first flight. That motor has some serious grunt to it.

I have the open air interstage coupler just about finished except for some cosmetic work. I have constructed a trailer in which to transport all of our equipment, which will also double as the launcher complete with twenty feet of tower using an extreme rail extrusion.

I was working on the outriggers for the trailer today and it was such a beautiful day I had to assemble the rocket and take some photos. There is another ten feet of tower but since I was working by myself I didn't think that I could raise it all. I walked into the field across the road to see what it would look like from 1000', it looked pretty small and nearly disappeared into the backdrop of the woods. I assume it will look better against the backdrop of the desert.



Would you like to see your project here?

Send information and pictures to the newsletter editor, John Coker, for inclusion in the next newsletter. We can accept digital pictures or prints. E-mail john@jcs.w.com for more information.

Nike-Asp by John Coker

I have been working on an ambitious project since last year with advice and help from Sue McMurray. My 81% Nike-Asp project was originally started to fly one of the ISP Pegasus fin motors left over from that contract. However, since this motor is an endburner (it burns for 22 seconds!), the project turned into a "how light can you build" effort.

As this newsletter goes to print, the rocket construction is complete and it's time to paint. In the interest of saving weight, it will not have a beautiful finish, but will just get one coat of white. The picture on the right shows the rocket completed, but still all in black (carbon fiber).

You'll note that the booster shown is actually the "baby Nike" booster which accommodates a single 98mm motor mount. The rocket will fly in this configuration at Mudrock EX with a 98mm Redline motor in the booster and the Pegasus fin motor in the sustainer.

The scale booster will be 13.5" in diameter and 10 feet long and will hold six 98mm motors. This configuration will fly at either BALLS or Black Rock EX at the end of the season. It will be a real achievement if the rocket stays together under 3600 lbs. of thrust (from six M2500s) and certainly spectacular if it doesn't.

For more information on this project and the various composite techniques which sprang from it, see my web site at www.jcrocket.com. (The Nike-Asp project is referenced on the main page, or you can get to it through the Fleet page.)



Minutes of the board meeting

AERO-PAC Board of Directors Meeting

April 28, 2001

BOD Members present: Tom Rouse, Bob Fortune, Steve Preston, John Coker & Scott Bowman

Absent: Richard Amstadter, Ken Biba & Paul Campbell

Discussion Items:

1. Equipment statues

"Hazardous Activity" signs - Bob will take care of purchasing 5 vinyl signs. The number will be increased this year in order to over comply with new BLM requirements.

Away pad markers - Steve will see that 4 fabric markers are made with the letters A B C & D. It turns out the Sue has the long missing #11. She will finish repairs and it will be ready for this summer's launches.

Lead wires - New leads will be needed for the 3rd row pads, Steve will work on this and determine whether 4 - 50ft. or 2 - 50ft. and 2 - 20ft. will be more appropriate.

Chalk - The board is considering not using chalk spray cans for marking the layout of the launch site. There is concern that this may be contradictory to the "leave no trace" concept that governs our use of the playa.

Ladder - Steve requested and received approval to purchase an 8ft. ladder that is needed for set up of large projects on the rails.

Rods - A 3/4 inch rod is needed for the VB pads. Also, It was requested that club members donate their old Estas launch pads to help meet the need for the increasing demand for 1/8 inch launchers.

Rails - The club will purchase 2 additional

6 ft. pro rails.

Plywood blast deflectors - Last season, several 3/8 inch plywood sections were used as blast deflectors on several of the pads. The "M" launches blew them apart. This season the club will use 1/2 inch 5 ply sections under the second and third row launchers. The purpose of these deflectors is to prevent the blast holes that the big motors can produce. This is a proactive approach to further limit the environmental impact of our launches. Tom will handle this project.

First row blast deflectors - Bob will research the possible use of grinding wheels for blast deflectors that will slide over up to a 1/2 inch rod, and help protect the lakebed under the first row.

Flight line rope - Instead of the battered flag line used in the past, a rope line will be used this season. This will be quieter in a wind and still provide the required barrier to spectators.

Tire pump and gauge, will be acquired for the new trailer.

2. Finances

Current balance: \$6190.54

Current trailer donations (included in balance): \$800 (there was more pledged but this is all that has been received)

Current membership: 71, this includes approx. 15 new members.

3. FAA Waivers - They have not yet been approved. Bob will send another email that emphasizes the time restrictions that the club now has. He will keep the board informed.

4. Spectator Waivers - Tom explained his conversation with his attorney. In his attorney's opinion, since our launches are well marked as a "Hazardous Activity", a certain amount of personal responsibility is accepted (by default) by all spectators. The analogy of a baseball game was used to explain that a spectator cannot sue the ball club if he gets hit and injured by a fly ball. The spectator assumes a certain level of risk when he attends a ball game and the same applies to a rocket launch. It was decided that the club will not require spectators to sign waivers at our launches.

5. Spectator Fees - In order to help cover the BLM and port-a-potty fees, the club will request with daily announcements, signs and flyers, that spectators contribute \$5 per day per person to help defray these costs. John will write an educational flyer to explain the need and how the funds are used.

Respectfully submitted
Scott Bowman
Secretary AERO-PAC

How to Contact the Board

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