



T.H.O.R.

November/December 2000

VOLUME 7 NUMBER 6

**T.H.O.R. - THE HEARTLAND
ORGANIZATION OF ROCKETRY
2000-2001 Events Calendar**

THOR WEB PAGE
www.tripoli.org/tra_ne/THOR/thor.html

Rocketman Central

By Richard Burney, Secretary and Newsletter Editor
THOR#8, NAR# 69543, and TRA# 6140

Monthly Meeting Schedule for fall and winter:

Tuesday November 7th, Tuesday December 5th, and January 2nd, 2001.
As usual, each meeting will start at 7:00 PM at the La Vista Community Center.

Election 2000...

Since the November election is approaching fast and in light of the ongoing lawsuit against the BATF, I would like to remind everyone who reads this newsletter to get out and vote. Depending on who ends up in the White House, Congress, or other national/local offices, things could go in either direction in regards to the amount of freedom we have in conducting our hobby or how much more regulation we will have to stomach. During the last few years, we have been given a taste of the kind of regulations and government bureaucracy that have been driving law abiding gun owners up the wall. There are some politicians who are attempting to scare people out of gun ownership by passing so many (and many times contradicting) local, state, and federal laws, that regular citizens are being scarred out of owning any kind of gun out of fear of breaking the law.

In regards to our hobby, we have been facing ever increasing regulation throughout the 1990's. Quite often we will get conflicting information pertaining to how we are to legally conduct our high power rocketry activities. The stories range from issues pertaining to storage to things as simple as how to display your LEUP! The latter is an issue members of our group have run into. Then there is the whole issue of how the BATF is treating ammonium perchlorate (as an explosive) and the significance of 62.5 grams (otherwise, where did they ever get that number to regulate rocket motors at that propellant weight?).

Of course there will be many other topics driving who we will vote for, but we need to consider what the

October 29 - Helicopter Duration

Launch Coordinator ----- Larry Drake (402) 895-1583
Description of event -- Have your rocket stay aloft the longest using an autorotation rocket as the recovery device.

November 11 - Breda(?) High/Low Power Launch

Launch Coordinator ---- Mark Uhlenkamp (712) 663-4521
Description of event -- This is a chance to fly your own low & high powered rockets, and see others fly their rockets.
Launch site may change in the upcoming weeks.

November 26 - Sport Launch

Launch Coordinator ----- ???????????
Description of event -- A low powered day of fun and flying. All rocketeers welcome to come and join in on the fun.

December 1 - Fifth Annual Christmas Party

Description of event -- Our Christmas party is open to all THOR members, plenty of food and videos to enjoy, more details will be announced in November.

*FUN FLYING AT ALL LISTED LAUNCHES!!

* All contest & sport launches to be held at the LaVista Sports complex.

* Email: bruce.lee@tripoli.org

* For Launch time and location call T.H.O.R info line (402) 896-2069, Bruce Lee at (402) 691-8420 or the launch coordinator listed.

* For information on contest call THOR or the Launch Coordinator.

* Prizes for events are to be announced before each event, valued at no less than \$10.00.

* Cost to enter contest is \$1 for members and \$2 for non-members.

TRIPOLI NEBRASKA WEB PAGE
www.tripoli.org/tra_ne/nebraska.htm

landscape may look like for us rocketeers in five, ten, or even more years from now. If things go well for us, we could be looking at private individuals and companies taking part in the commercialization and exploration of space. If things go the other direction, we may be looking at a scenario where low power model rocketry may be the limit of where one can take their love of rocketry and space travel.

Just over a month ago, Ky Michaelson and a handful of people, including THOR's own Bruce Lee, came oh so close to becoming the first private citizens in the entire world to send a rocket to the edge of space. There are right now close to a half-dozen serious prospects for the first manned amateur spacecraft to get to the edge of space (X-Prize). THOR member Dave Pares is starting the wheels rolling for his own entry into this X-Prize contest.

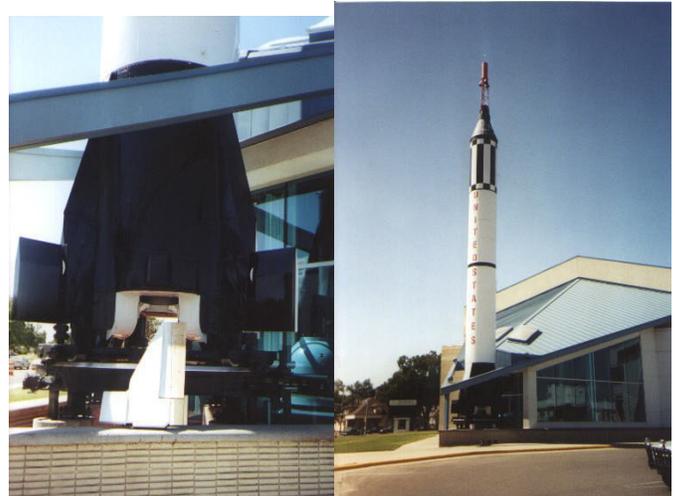
It is my opinion that groups like THOR and other rocket enthusiasts across the country and other countries across the world will be the best hope that the future of space travel and space exploration has. It would be a shame if big government sets the future of all of this back because it would like to consider us as "potential terrorists" instead of what we are... pioneers.

A.I.R.Fest 6...

This past Labor Day weekend (Friday September 1st through Monday the 4th) marked the third year in a row that I had the opportunity to attend a major rocket launch at the Kloudbusters' site at Argonia, Kansas and to see the Kansas Cosmosphere. It was VERY hot down there in Kansas; Friday through Sunday's high temperature averaged between 105 to 110 degrees. Sizzle! On the flip side, though, the wind conditions were generally favorable.

On Friday, my first stop on my way down to A.I.R.Fest was the Kansas Cosmosphere in Hutchinson. A few days earlier, I had arranged to get close up shots of the museum's V-2 courtesy of curator Jim Remar (thanks again!). I was getting these extra close shots for some modeling work that John Carroll wants to do with the V-2. Mr. Remar took me up to the platform that they keep their V-2 on and I was able to get all the shots I wanted. Not many people get to see the Cosmosphere V-2 from the backside of the display! Besides the V-2, they also have a V-1 cruise missile; it was known as the "buzz bomb" because of the distinct noise its pulse jet engine would make. Few collections in the entire world have BOTH of these weapons of Nazi Germany. One of the star attractions of the museum, Gus Grissom's Liberty Bell 7, will be out on display at various museums across the country for the next several years... damn, I missed it again! A few of its stops will swing back through the Midwest (the schedule is at the Cosmosphere's web site www.cosmo.org). The museum has many other US and Soviet spacecraft, such as the Apollo XIII command module, satellites, and many other historic pieces of aerospace history. If you have never been to the Cosmosphere, I extremely

recommend checking it out once... after three visits I haven't quite absorbed everything!

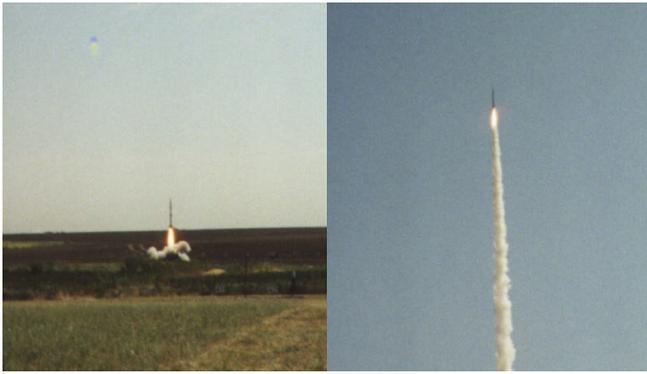


What could have been... I took the surviving fin I have of the group's Redstone down with me to the Cosmosphere and took a picture of it with the Mercury Redstone at the front of the museum. If our 1/3rd scale Mercury Redstone had survived it would have been put on display here.

I got down to Anthony later that afternoon. A few other THOR members and our friends, such as Don Rice and Larry Mills, had been out at the launch on Friday. Other than a few Level 3 flights, nothing super big or exciting had taken place (at least from what I recall!). Saturday would be a scorcher like Friday. Even though it was Labor Day weekend, most of the Midwest was seeing highs in the upper 90's to even greater than a 110 degrees, especially in Kansas and down south to Texas. My only flight on Saturday was my recently rebuilt Final Fantasy VII. Though the rocket is not as clean and light as she used to be, I ended up setting my official all time record altitude high of 4,580 feet. With the help of my Transolve P5, dual deployment worked as planned and this time the shock cords all held together. Since I didn't want to over exert myself in the heat, I drove my truck down the road to approximately where it had landed. Afterwards, I drove around for a little bit trying to help a few people locate their missing rockets. I did find a few separated parachutes which I set by the roadside.

A few notable flights on Saturday included Larry Mills near full scale replica of the AIM-120 AMRAAM. Larry flew the 12+ foot colossus on an M1939. The flight was truly awesome and he got the rocket back in fine condition. During Saturday afternoon, a PML Pterodactyl suffered a blow through of its K550 motor (K550's are very reliable so the motor may have been assembled poorly by the flyer). The whole top section above the fin section burned up, only tattered pieces of fiberglass remained. The fire was quickly extinguished by the Kloudbusters' "fire truck". Don Rice taped the entire spectacle. I want a copy, Don!

Sunday was no better in the temperature department, but wind wise it was very calm (at least until



Larry Mills' near full size replica of the AIM-120 AMRAAM heads straight up on an intercept course against a Russian MiG-29 Fulcrum, a Su-27 Flanker, or maybe a Tu-95 Bear!☺

the wind gusts kicked in during the afternoon). Since Mark Uhlenkamp and Bruce Lee had shown up Saturday evening, I was now able to fly my recently completed *Macross Plus* on a K550. When I took *Macross Plus* out to the pad and set her up on the rod and turned on the altimeter, I initially got no beeping! I flipped it off and turned it back on and this time the altimeter started beeping and I new I was in business! At liftoff, *Macross Plus* headed straight up to 2,200 feet. Ejection took place several seconds after reaching apogee. Other than a very minor zipper the flight was a complete success. During the afternoon, I flew my recently rebuilt Estes Alpha III on a C6-5. This was my second model rocket kit and I had gotten it for my 12th birthday back on September 4th, 1985. Since my birthday was going to be the next day and since this is the 15th anniversary of my oldest kit and the year I got into model rocketry, this was definitely a special flight. The flight was good, but the shock cord snapped and the 15 year old original nose cone drifted out of sight. Ugh! At least I found the rest of it and do plan on flying it again. I also flew my other *Macross* themed rocket, *Macross Digital Mission VF-X*, twice during the afternoon.



Yours truly with *Macross Plus*. This was my second K flight (and my second K550). A straight up flight to 2,200 feet.

Bruce Lee, Mark Uhlenkamp, Tony Cochran, and Lyle Woodrum (who was up to visit from Texas) spent a good portion of the day prepping the full two stage configuration of the original CSXT prototype. For this flight, it would fly on four nitrous hybrid Aerotech J motors and a central Aerotech M845 nitrous hybrid. At takeoff, all five motors lit (okay, I think one of the J's didn't, but takeoff was still impressive), and the CSXT roared into the sky. Unfortunately, the second stage never fired and it's chute never deployed and was severely damaged on impact. The main section did come down safely on a large Rocketman chute.



Bruce Lee (l) and Tony Cochran (r) with the partially assembled CSXT prototype. Takeoff went well (I think one J didn't light). Second stage didn't fire and was damaged upon landing.



Bruce starts the long walk to recover the CSXT lower stage. You can see the parachute descending above the bushes and wire.

The most powerful flight of the day was a Dynacom kit powered by an N2000. The sound of the N2000 in that near minimum diameter airframe was like a jet! The owner of the rocket had two transmitters aboard. One failed, but the other led him right to his rocket. The rocket had reached an altitude of over 22,000 feet.... over four miles up!

During the last hour of the day, the winds picked up postponing flying several times. With a few minutes left to the waiver, some guy from Indiana flew an ultra rare LOC Esoteric with a 12,000+ N/S cluster of Aerotech K700's and a few Kosdon L's. About a second into flight the rocket flipped over and flopped to the ground. With the rocket pointed towards the crowd, the L motors lit. By some miracle the rocket barely moved from where it landed, but now several raging fires had started amongst the very dry grass and weeds. When it was realized that the fires could not be contained, the Argonia fire department was called. They arrived a few minutes later and the three trucks had the fires extinguished within a few minutes. Definitely the most memorable event of A.I.R.Fest 6!

Monday was experimental day. I had to leave for home at noon, but I did see some impressive flights. Bruce Lee flew his modified THOY Falcon with a Thunder Flame motor for a good flight. Some of our friends from I-SOAR were there on Sunday and Monday to do some conventional and experimental flying. There was a very impressive drag race involving upscaled Minie Maggs powered by Thunderflame K motors. Most of the participants were from Oklahoma and Texas. You could tell which motors were best mixed... some of the rockets took off very quickly and reached altitudes of over two thousand feet while others took off very slowly and got maybe about 500 to a 1,000 feet up. An experimental K motor (not in the drag race) had a devastating cato that sent one of the fins flying a few hundred feet across the field.



The big drag race between about half-a-dozen upscaled Minie Maggs powered by Thunder Flame K motors! Three Maggs have lifted off at this point.

If I go to LDRS next year, I might not make it to A.I.R.Fest 7, but if I don't get to LDRS, I will be definitely going to A.I.R.Fest 7!

Egg Lofter Contest...

The egg lofter contest this year was held in conjunction with John Carroll's Field of Wings at the La Vista Sports Complex. Besides the contest, THOR had the chance to show off the wide array of rocketry, from model to high power, that our members are involved with. Of course we flew some model rockets, too! On the other side of the parking lot, John and some other RC aircraft enthusiasts (presumably with the Omahawks) were flying some RC aircraft.

As for the contest, Arley Davis was the winner. He used both a specialized egg lofter rocket designed for maximum altitude and an Estes Omloid. After nearly losing it in the corn field, he used an Omloid for the final flights. Larry Drake placed second with an Omloid. Candy Davis dropped out of the contest after a DQ on her first flight.

Pickrell, October 21st...

The last launch of the year from the Pickrell site was on Saturday the 21st. The day started out overcast, but the sun eventually burned its way through the cloud cover. The wind was blowing out of the south at about 10 to 15 mph, but died down to about 5 to 10 mph in the afternoon. Temperature wise it made to a high of about 70 degrees which was very comfortable for a late October day.

After most of my flights at Pickrell two weeks earlier had gone disastrous, this day was much better. First of all, the local power company sent somebody out to retrieve my Aerotech Strong Arm which had been sitting in the power lines for the last two weeks. The bad news is that my beloved Strong Arm would be extremely difficult to rebuild and repair due to its two weeks of banging into the power pole. Good news is I got my reload case back and some of the parts of the rocket can be salvaged. I spent most of the day prepping my *Final Fantasy VII* for its, well, seventh flight! *Final Fantasy VII* was flown on an I211 to an altitude of 1,390 feet (which seems odd since the rocket reached an altitude of 3,230 on the same motor a few months earlier). The Transolve P5 performed flawlessly again deploying both the apogee and 400 foot ejection charges. I also flew my Maxi Alpha 3 on a D12-3 (first flight for this Estes classic rerelease), my *Breath of Fire* on a F50-5, and my trusty old Aerotech Arreaux on an F14-6.

The biggest flight of the day was Bruce Lee's famous (infamous?) *Dr. Mario* powered by an Aerotech K1100. The flight went well until ejection charge went off and the shock cord broke. The bottom section landed sideways and suffered some minor damage. *Dr. Mario* has suffered a few mishaps before, but somehow has pulled through each of those times with minimum damage. Bruce is confident that *Mario* will fly again.

There were several Certification flights during the day. After dropping out of the hobby for over a year, Chad Hummel recertified with his PML Ariel powered by an I284. Chad had his PML 1/2 scale Patriot with him to recertify for Level 2, but did not fly it that day. Kevin Trojanowski flew his *Guinea Pig* on a J350 for a successful Level 2 flight. Like my *Final Fantasy VII*,

Kevin's rocket used dual stage deployment (with an AltAcc 2 altimeter) along with the motor ejection charge for backup. Congratulations, Kevin! Rich Baker flew his PML Aurora with a J210 nitrous hybrid motor for his Level 2 flight. I believe the flight was successful, so congratulations! Lance Fisher flew a J350 powered PML Nimbus using dual stage deployment from an ALTS 25 altimeter for his Level 2 flight. Again, congratulations!

There were a total of 26 recorded flights (though I think Dave Pares' scout unit did some low power flights). Lance Fisher had the most flights (5) with me right behind (4). We have a launch planned for November 11th at the Breda, IA site, but the October 21st launch at Pickrell turned out to be a good way to end the high power flying season in Nebraska.

Dedicated to All Pioneers...

Ever since the time I started building *Macross Plus* this past winter, I have had the opportunity to share this project with a number of other Macross fans, some of which are the webmasters of several excellent websites. In fact, two of my more favorite sites, Macross World (www.macrossworld.com) and the Valkyrie Factory (www.menet.umn.edu/~ngo/frame.html) are currently running a lot of photos of my Macross themed rockets on both of their sites. A few other Macross fan sites I would highly recommend would be the Valkyrie Exchange (www.valkyrie-exchange.com) and the Macross Compendium (<http://macross.anime.net>). In case you haven't figured it out, "Valkyrie" is the name that applies to the VF-1 transformable fighters of the classic Macross series, but the name has now been used to generically describe all of the variable fighters of the Macross universe.

Quite a few Macross fans I have talked to over the last several years tend to often be aviation or space exploration enthusiasts (to some degree or another). Most of these people were also knowledgeable about the existence of model rocketry. Just imagine when they found out about high power model rocketry! Because of my Macross rockets (especially *Plus*), I have been able to bring two of my favorite hobbies together in a unique way. *Macross Plus* not only was my biggest step forward in high power rocketry, but it also gave me my own way to stand out in the Macross fan community and to share my model rocketry hobby with others.

One final note to all THOR members... please send me articles!!! Right now it's just mainly Bruce and myself who are keeping this newsletter going. I am sure every one of you have your own unique stories and experiences to share.

Nebraska Heat III Photo Gallery Part 3

Finally, this will be the last installment of pictures from Nebraska Heat III (already five months ago!!!).



Ann Dush and Christopher Jones with Ann's *Explorer*.



Ann's *Explorer* heads up on a G40.



Mark Uhlenkamp's *Proto II* heads straight up on a K560 (this is Aerotech's full K, not to be confused with the smaller K550)



Mark, we know it's damaged! Mark tries to hold Proto II together and put on a smile.



Justin Hayes with his LOC Bruiser

THOR Meeting Minutes: September/October

Compiled by Richard Burney, Secretary

THOR Meeting Minutes 9/5/00

Attendance: Richard Burney, Dennis Gilbert, Jon Damme, Candy Davis, Jacob Davis, Arley Davis, Bruce Lee, Devin Rich, Kathy McGinnis, Kevin Rich, and Kevin Trojanowski.

Meeting starts at 19:30.

Bruce shows an episode of *Junk Yard Wars* which airs on The Learning Channel (TLC). In this episode, the participants in each of the two teams were to make a glider from junk they were provided (they're in a junk yard after all!). Bruce will be participating in an episode in which he and other team members will construct a rocket (including launch system, too) that will carry an ostrich egg. This episode will air in January of 2001. Ky Michaelson will be a judge.

Kevin Trojanowski shows his scratch-built, 3.9 inch diameter rocket he wants to do his Level 2 with. This rocket will satisfy numerous firsts such as his first fiberglass job and his first use of an altimeter.

Rich shows off his recently built Maxi Alpha 3.

Kevin Rich shows some tubing his wife got for him.

Rich and Bruce talk about some of the highlights from AIRFest.

Field of Wings this Sunday the 10th.

Pickrell experimental launch on October 7th will now be high power. High power launch on the 21st is still on. Breda, IA (or another Iowa location north of Des Moines) on for November 11th. Low power launches at La Vista sports complex on September 24th, October 29th, and November 26th.

Meeting adjourned at 21:30.

THOR Meeting Minutes 10/3/00

Attendance: Jon Damme, Candy Davis, Jacob Davis, Arley Davis, Tyson Christiansen, Devin Rich, Bruce Lee, Kevin Trojanowski, Kevin Rich Kathy McGinnis, Richard Burney, Dave Pares, and Allyson Pares.

Meeting starts at 19:15.

Bruce gives details about the episode of *Junk Yard Wars* in which he was a participant. Bruce's team's egg survived the flight (using a cluster of three I284's). The other team's egg broke (their rocket was powered by a single K).

Space Shot – When completed the CSXT stood 15 feet tall, 9 inches in diameter, and most of the airframe was propellant (!). On Wednesday, September 27th, the tower that was used for the Redstone was assembled out at Black Rock. Got waiver to 390,000 feet at 4:00 PM. During Thursday, September 28th, there were problems encountered with the weather balloons that were used to test the altimeters. Finally, on Friday the 29th, liftoff occurred at 8:41 AM. The rocket reached 3,203 MPH. At 8 miles up, the rocket apparently came unstable and came apart. Possible shifting of the CP

while hypersonic may have caused the instability... the rocket was no longer under power and had decelerated to 2 G's. Most of the parts were found. Even the electronics survived! Exact cause of failure to be determined.

Our NAR Section status is in question right now due to some screw up at NAR HQ.

Dave Pares shows the scale replication of the skeletal frame of his Level 3 rocket (a lifting body). A larger version designed for three passengers might be built for the X-Prize contest.

According to Jon Damme, adding a few drops of black paint to white paint may prevent yellowing as it ages. Also brings up the possibility of having local radio personality Otis 12 to interview Bruce.

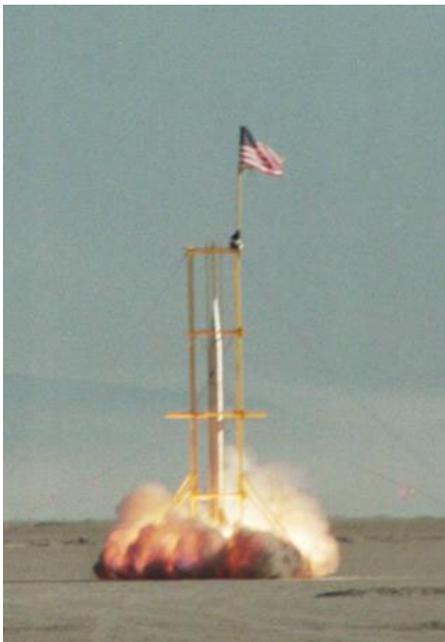
Nominations for THOR officer positions next month. Election in December.

Since Lyle Woodrum has moved, someone else will have to host the Christmas party.

Rich shows off the episode of *Ripley's Believe it or Not!* with Ky Michaelson as one of their subjects.

Arley shows the camcorder footage he took of the *Nebraska Heat* project from 1997.

Meeting adjourned at 21:45.



Ky Michaelson's CSXT rockets up towards the heavens on its almost history making flight. (From the Rocketman website).

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The Heartland Organization of Rocketry ("THOR") is an officially sanctioned section, #562, of the National Association of Rocketry (NAR).

Tripoli Nebraska #46 is an official Prefecture of the Tripoli Rocketry Association, Inc.

If you are interested in joining The Heartland Organization of Rocketry (T.H.O.R.) simply fill out an application and mail it to:

T.H.O.R.
6211 South 141 St.
Omaha, NE 68137

Meetings are held the first Tuesday of each month, 7:00PM at the LaVista Community Center at 8116 Parkview St, La Vista NE (turn east at the Sinclair Gas Station on 84th St.). Visitors are welcome to attend. For club launch time, launch location or general information call The Heartland Organization of Rocketry at 402-896-2069. THOR strictly follows the safety guidelines set forth by the National Association of Rocketry and Tripoli Rocketry Association, Inc.

For more information call The Heartland Organization of Rocketry at 402-896-2069 and leave a voice mail that will be returned in a few days.

T.H.O.R Membership Application

Personal information

Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Phone Number: _____

Email Address: _____

Hobby information

How long have you been involved in Rocketry? _____

Are you a member of a national Rocketry Organization:
NAR# _____ TRA# _____ NERO# _____

Rates (1/2 year memberships divide by 2 and add \$1)

Family membership - \$36

Senior (18 and up) - \$24

Junior (under 18) - \$12

Correspondence - \$10

(people over 50 miles from Omaha)

Newsletter only - \$6

(6 issues per year)

**Membership in The Heartland
Organization of Rocketry is open to
all interested parties.**

I agree to comply with the THOR policies as pertains to the safety guidelines set forth by the NAR and Tripoli. Failure to do so is grounds for expulsion.

Signature _____

Dated: _____