



T.H.O.R.

**The Heartland
Organization of
Rocketry**

THOR's Hammer

The official newsletter of The Heartland Organization of Rocketry!

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Summer 2006

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Volume 13 Number 3



Once again, LDRS returns to the central US and members of THOR were there! Here a large scale Nike Smoke hits the Texas skies on Friday June 30th. (Richard Burney)

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Internet Links of Interest

<http://www.nerocketry.org/>

THOR's official web page. Has information on our club, launch dates, and history.

<http://www.tripoli.org/>

Home page for the Tripoli Rocketry Association.

<http://www.nar.org/index.html>

Home page for the National Association of Rocketry.

<http://www.rocketryonline.com/index.cgi>

Rocketry Online is an excellent source of model and high power rocketry related news and information.

<http://www.the-rocketman.com/>

Producer of some very excellent parachutes and rocket gear. Ky has been a long time supporter of THOR.

<http://www.giantleaprocketry.com/>

Giant Leap Rocketry has been THOR's main vendor at our high power launches since 2002.

<http://www.kloubusters.org/>

Home page for the K.L.O.U.D.Busters Tripoli Prefecture of the state of Kansas.

Summer/Fall 2006 Calendar

August

Event: High Power Launch.
When: Saturday the 19th, 9:00 AM to 5:00 PM.
Where: Pickrell, NE.
Ceiling: 15,000' MSL (13,650' AGL). Window to 23,000' MSL possible with 72+ hour advance notice.
Fee: \$5.
Description: High power and low power sport flying.
For More Information: Check the rocketry hotline for any delays or cancellations if weather looks questionable.

September

Event: AIRFest X.
When: High power commercial flying from Friday the 1st through Sunday the 3rd. Experimental flying on Monday the 4th.
Where: Argonia, KS.
Description: This is the awesome high power launch held each year by the Tripoli Kansas Prefecture. The KLOUDBusters have a very excellent field to fly from and this site has been used for several LDRS's. Many members from THOR have attended the AIRFest launch in the past.
For More Information: <http://www.kloubusters.org/airfest.html>

Event: September Meeting.
When: Tuesday the 5th, 7:00 to 10:00 PM.
Where: La Vista Community Center.

Event: Balls 15
When: TBA.
Where: Blackrock, NV.
Description: The big, national, experimental high power rocket launch of the year!
For More Information: <http://www.ahpra.org/b2k.html>

Event: High Power Launch.
When: Saturday the 16th, 9:00 AM to 5:00 PM.
Where: Pickrell, NE.
Ceiling: 15,000' MSL (13,650' AGL). Window to 23,000' MSL possible with 72+ hour advance notice.
Fee: \$5.
Description: High power and low power sport flying.
For More Information: Check the rocketry hotline for any delays or cancellations if weather looks questionable.

Event: Guardians of Freedom Air Show.
When: Saturday the 23rd and Sunday the 24th.
Where: Lincoln Municipal Airport, Lincoln, NE.
For More Information: <http://www.lincolnairshow.com/index.php>

October

Event: October Meeting.
When: Tuesday the 3rd, 7:00 to 10:00 PM.
Where: La Vista Community Center.

Event: "Still to be Named!"
When: Experimental day on Friday the 20th. High power commercial flying on Saturday the 21st and Sunday the 22nd, 9:00 AM to 5:00 PM each day.
Where: Pickrell, NE.
Ceiling: 15,000' MSL (13,650' AGL). Window to 23,000' MSL possible with 72+ hour advance notice.
Fee: \$10 for 1 day, \$15 for 2; EX day is free.
Description: THOR's new annual three-day, high power, fall launch.
For More Information: Final details will be set by the October meeting.

November

Event: November Meeting.
When: Tuesday the 7th, 7:00 to 10:00 PM.
Where: La Vista Community Center

Editor's Hammer

By Richard Burney, Secretary and Newsletter Editor

In memory of Scott Frasier...

As some of us recently found out, one of our newer members from the Lincoln area, **Scott Frasier**, passed away back in April after a two year battle with cancer. Due to him living down in the Lincoln area and since his failing health kept him from attending launches and meetings, no one in our immediate club knew about his death until we received an e-mail from his friend Corey Root in July.

Scott originally found out about THOR back around 2003. When he would stop in at one of the Lincoln area HobbyTowns, he would pick up a copy of our newsletter, **THOR's Hammer**. Because of these newsletters I would drop off to that store, Scott found out about our club. At some point Scott decided to find out more about the club and one of the first people in the club he got in touch with was me. We ended up swapping a fair number of e-mails and eventually Scott started coming to some of our meetings and our launches. When our **Nebraska Heat 7** launch happened in June of 2004, Scott got his Level 2 Certification using his PML Endeavor powered by a Pro54 J280 Smoky Sam motor.

At some point during the first half of 2004, Scott was diagnosed with cancer. If he had fought cancer before, I don't remember for sure. As his health went downhill during the next two years, his ability to come up to our meetings and attend launches decreased; in fact one of the last times I think I saw him in person was our March 2005 auction. Every few months, I would send him an e-mail to make sure everything was okay. The last time I e-mailed him was late February of this year. Here is what he said:

"Hi Richard! I read all the notices you put out on the net to try to keep track of you guys. I will be to a launch when it gets warmer! The cancer is still with me but not growing right now. I am working full time (still at ADM), so just living day by day, one day at a time. I hope to catch up with you guys soon, and I really do miss you all. You're quite a group. See you, Scott"

Sadly, about two months later, Scot lost his fight with cancer. After LDRS, it had crossed my mind to check up on Scott again and that was when Scott's friend Corey passed along the news.

Though I only had the chance to know him for a little over two years, I'm glad to have had the opportunity. I am also glad to see that because of the efforts I have put into this newsletter, Scott was able to find out about our club and was able to more

fully enjoy this hobby and to make some new friends during these last few years of his life. I hope and pray that Scott is happier where he is today.

Soccer Fields at 66th and Harrison...

For those who haven't gotten the message yet, the soccer fields that we had been using south of **66th and Harrison** for many years are now **off limits** for the purpose of model rocket flying either as a club or as individuals. We are continuing to look for a new field for people to fly regular model rockets locally. If anyone has suggestions, feel free to e-mail or call us officers.

Playing Catch Up...

Due to time constraints and that I have a dearth of **LDRS 25** materials to include in this issue as it is, I am going to have to pass up coverage from this year's **Fire On the Farm 9** launch and some other club related events since March. If anyone is interested in any digital pictures from FOTF 9 or any other event, let me know. ✦

Scott Frasier and his PML Hydra at Nebraska Heat 7, June 2004.



**Large Dangerous Rocket Ships
(LDRS) 25**
Wayside, TX – June 29th – July 4th
Article and pictures by Richard Burney

Tripoli Rocketry Association's annual high power model rocketry event, **LDRS**, celebrated its silver anniversary this year. Besides being the 25th LDRS, this also marked the return of LDRS to the midsection of the US, being held about 25 miles south and east of Amarillo, Texas; whenever LDRS is held in this neck of the woods, a high turnout from THOR's membership is guaranteed! And of those THOR members who attended, many of them were involved with **Kevin Trojanowski's 1/5th scale Delta III**.

For those who have never been to the POTROCS' field near Wayside, it is flat and wide open cattle grazing land. A very nice place to fly! Many of the other nearby farm fields were devoid of any vegetation so this further helped make recovery of high performance rockets much easier. For the whole six day duration of LDRS, conditions were

mainly sunny with the mornings starting off in the 60's and the highs being in the low 90's. Coupled with a low humidity, this was a much more pleasant LDRS than what some of us have gotten accustomed to at the KLOUDBusters' field near Argonia, Kansas. Wind conditions were also pretty good on average. Even on the days when *The Weather Channel* would forecast winds in the 15 to 25 MPH range, it never seemed that windy out there in the field and there were many a time the winds would slacken off to about dead calm. Over all, it was hard to have asked for better conditions.

From Thursday June 29th to Sunday July 2nd, commercial flying was held. On Monday the 3rd and Tuesday the 4th, both of those days were research days allowing both experimental and commercial motors. The LDRS 25 banquet and meeting was held at the Ritz hotel on the south side of Amarillo on Saturday evening.

On the following pages are some pictures I took from Thursday to my last day on Monday. Many of the pictures I took were submitted to both **Rockets** magazine and **Extreme Rocketry** magazine so watch out for their LDRS 25 issues in the upcoming months!✦

Thursday June 29th



After a few flights started off the day, Pat Gordzelik, Prefect of the POTROCS and Tripoli Vice President, held a flyer's meeting at noon going over the rules and specifics regarding LDRS 25.



Ray Kinsel of La Vernia, TX loads his rocket known as *Hubbub* on to the launch pad. The rocket was powered by an AMW L900 Red Rhino. A cameraman from a local TV station watches on.



Mac Heller and his son Steve flew their Dynacom Blackrock on an AMW M1480 Red Rhino.

Friday June 30th



Richard Burney (the author) flew his rebuilt *Mobile Rocket Gundam* with a Pro54 L730 and three Pro38 I285's which started in midair. It reached an altitude of 6,461 feet. My greatest rocket achievement!

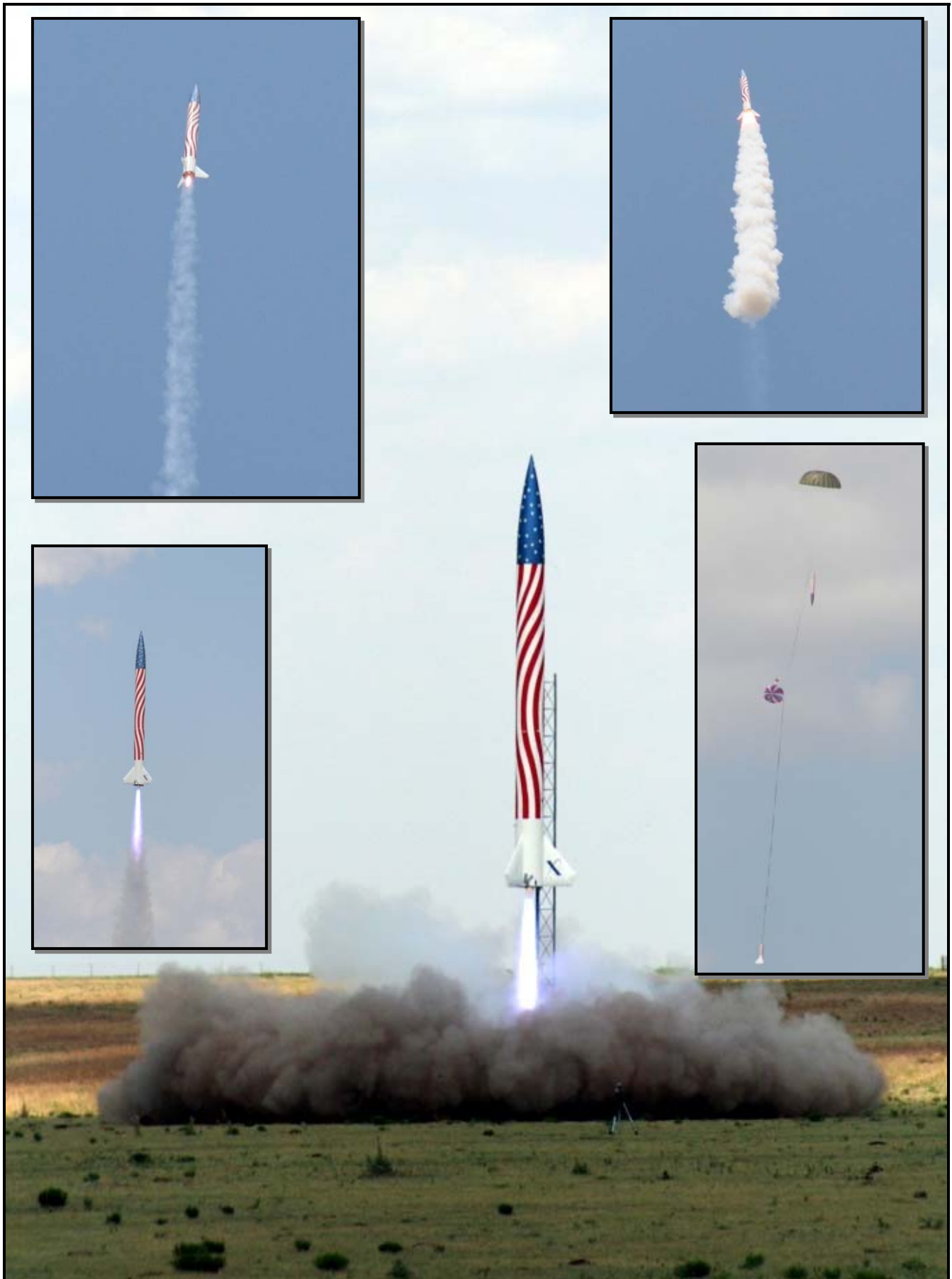
Saturday July 1st



Dennis Watkins of Huntington, IN flew this 3X upscale of the Fliskit ACME Spitfire on an AeroTech J570. Though this is such a weird looking rocket, it is actually quite stable!



Tim Lehr and his Team Wildman flew their rocket *The Wildman* on a cluster of seven AMW Blue Baboon motors: an N2700, three M1900's, and three L1080's; this was one of the most powerful flights at LDRS 25.



Woody Hoberg of Pittsburgh, PA flew *The Flag Rocket* with an AMW N4000 BB at liftoff followed by two AeroTech M1297's in midair ending with two AMW K555 Skidmarks a few seconds after that. Awesome!

Sunday July 2nd



Terry Smemo flew his *Safety Rocket* on a Pro38 J285.

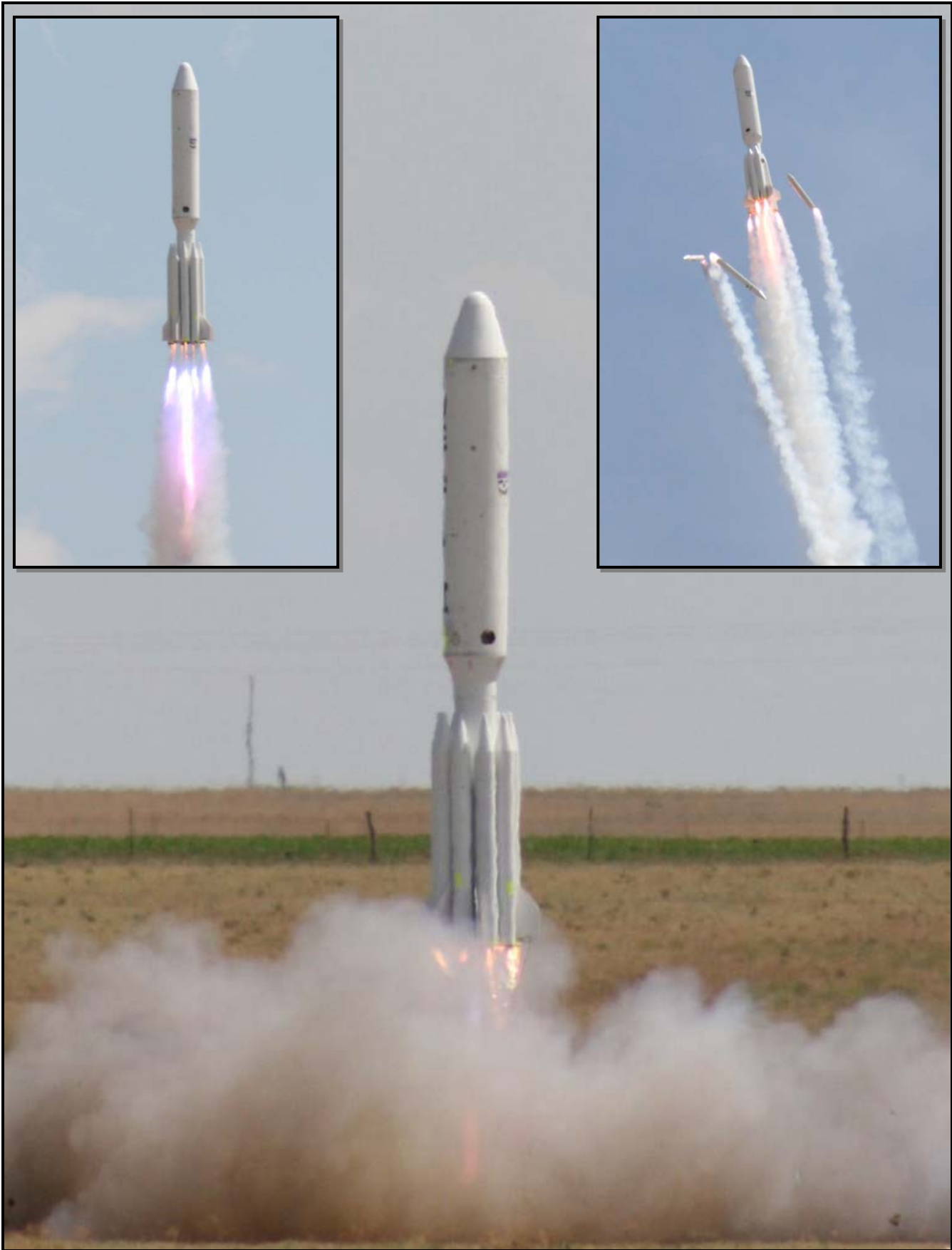


This AeroTech demo flight ended in a spectacular cato.

Monday July 3rd



Assembly and final prep of the 1/5th scale Delta III.



With a P8600 in the midsection and nine L1200's in each of the detachable booster pods (all motors by Pat Gordzelik), the Delta III reached an altitude of almost 4,000 feet. Other than two of the strap-on boosters not separating, this was an otherwise perfect flight. Congratulations to Kevin and everyone involved!



<http://spaceplace.nasa.gov/en/kids/>

Not a Moment Wasted

By Dr. Tony Phillips

The Ring Nebula. Check. M13. Check. Next up: The Whirlpool galaxy.

You punch in the coordinates and your telescope takes off, slewing across the sky. You tap your feet and stare at the stars. These Messier marathons would go much faster if the telescope didn't take so long to slew. What a waste of time!

Don't tell that to the x-ray astronomers.

"We're putting our slew time to good use," explains Norbert Schartel, project scientist for the European Space Agency's XMM-Newton x-ray telescope. The telescope, named for Sir Isaac Newton, was launched into Earth orbit in 1999. It's now midway through an 11-year mission to study black holes, neutron stars, active galaxies and other violent denizens of the Universe that show up particularly well at x-ray wavelengths.

For the past four years, whenever XMM-Newton slewed from one object to another, astronomers kept the telescope's cameras running, recording whatever might drift through the field of view. The result is a stunning survey of the heavens covering 15% of the entire sky.

Sifting through the data, ESA astronomers have found entire clusters of galaxies unknown before anyone started paying attention to "slew time." Some already-known galaxies have been caught in the act of flaring—a sign, researchers believe, of a central black hole gobbling matter from nearby stars and interstellar clouds. Here in our own galaxy, the 20,000 year old Vela supernova remnant has been expanding. XMM-Newton has slewed across it many times, tracing its changing contours in exquisite detail.

The slew technique works because of XMM-Newton's great sensitivity. It has more collecting area than any other x-ray telescope in the history of astronomy. Sources flit through the field of view in only 10 seconds, but that's plenty of time in most cases to gather valuable data.

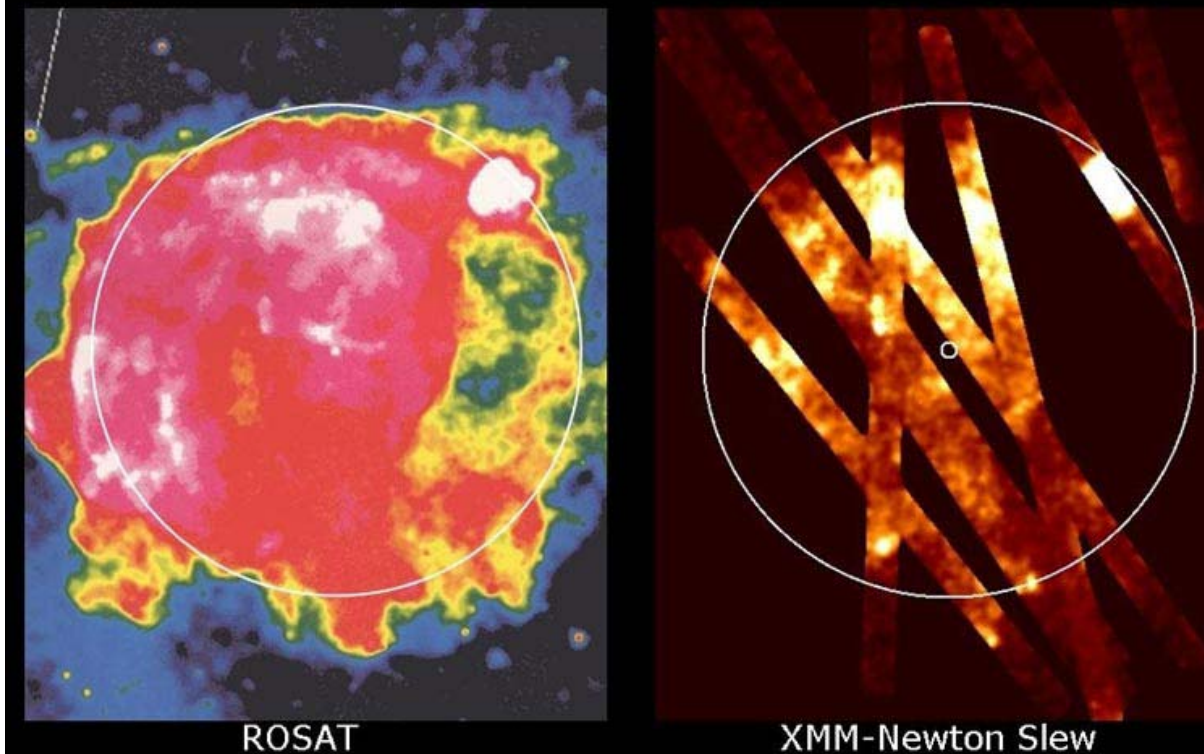
The work is just beginning. Astronomers plan to continue the slew survey, eventually mapping as much as 80% of the entire sky. No one knows how many new clusters will be found or how many black holes might be caught gobbling their neighbors. One thing's for sure: "There will be new discoveries," says Schartel.

Tap, tap, tap. The next time you're in the backyard with your telescope, and it takes off for the Whirlpool galaxy, don't just stand there. Try to keep up with the moving eyepiece. Look, you never know what might drift by.

See some of the other XMM-Newton images at <http://sci.esa.int>. For more about XMM-Newton's Education and Public Outreach program, including downloadable classroom materials, go to <http://xmm.sonoma.edu>. Kids can learn about black holes and play "Black Hole Rescue" at The Space Place, <http://spaceplace.nasa.gov/>, under "Games."

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration. ↗

Vela Supernova Remnant



The image on the left is the Vela Supernova Remnant as imaged in X-rays by ROSAT. On the right are some of the slew images obtained by XMM-Newton in its "spare" time.

THOR Meeting Minutes

Compiled by Richard Burney, Secretary

Pictures by Richard Burney

THOR Meeting Minutes 4/4/06

Attendance: Richard Burney, Bruce Lee, Trey Marcotte, Robert Marcotte, Arley Davis, Doug Holverson, Greg Rothman, Kevin Trojanowski, Doug Buhman, and Dan Cramer.

Meeting starts at 19:16.

Bruce Lee will be doing a review for **HobbyTown's** newsletter regarding a new Estes kit.

Richard Burney and **Kevin Trojanowski** report **Andrew Wimmer's** (5.00) and **David Austerberry's** (6.13) best scores for their entries for this year's **Team America Rocketry Challenge**.

Doug Buhman talks about a satellite he bounced signals off of back during the 1970's. The satellite went dead around 1980. It came back to life in the early 1990's.

Doug Holverson shows some of his latest artwork.

Arley Davis talks about the things going on in his life.

Details for this year's **Fire on the Farm** are discussed

Meeting adjourned at 20:32.

THOR Meeting Minutes 5/2/06

Attendance: Richard Burney, Bruce Lee, Scott Pearson, Robert Marcotte, Trey Marcotte, Larry Drake, Jeff Moon, Bill Richardson, Greg Rothman, and Kevin Trojanowski.

Meeting starts at 19:10.

Bruce Lee shows the brand new **Estes Porta-Pot Shot** model rocket which Bruce is writing up a review about for an upcoming issue of **HobbyTown's** newsletter.

Richard Burney talks about some of his rockets in the works. Has plenty of **Fire on the Farm 9** pictures for those who want him to burn a CD.

Safety issues of hydrogen peroxide are discussed.

Kevin Trojanowski passes around the latest issue of **Rockets** magazine.

Bill Richardson shows a scratch-built rocket he based off of the PML Endeavour.

Larry Drake talks about what he's been up to lately.

Robert Marcotte plans on using his PML Endeavor to go for his Level 2 at an upcoming launch.

The grass fire that took place at Fire on the Farm is discussed. We are looking at attending fire classes put on by the Pickrell fire department on the second Thursday each month. Ideas and solutions are discussed:

- 1) **Fire classes.** For those living up here in Omaha, it might be best for some to carpool.
- 2) **Burn permit.** Though we're not burning trash or the fields (at least intentionally), this may be something worth getting to cover our activity.
- 3) **Move pads further from the weeds and underbrush.** (This would be done at the next launch).
- 4) **May have to consider canceling launches if too dry.**
- 5) **Need more and better fire equipment.**

Issue of volunteering at launches (RSO, LCO, pad manager, etc.) is discussed.

Tripoli election ballots went out Friday to Tripoli members.

Meeting adjourned at 21:07.

THOR Meeting Minutes 6/6/06

Attendance: Richard Burney, Bruce Lee, Arley Davis, Robert Marcotte, Trey Marcotte, Andrew Wimmer, Tessa Lierman (guest – Andrew's TARC teammate), Shawn Kreikemeier (guest – Andrew's TARC teammate), Jeff Moon, Jon Damme, Ann Beckenhauer, Kevin Trojanowski, Bill Richardson, David Austerberry, Matt (guest – David's TARC teammate), Ricky (guest – David's TARC teammate), and Doug Holverson.

Meeting starts at 19:10.

Richard Burney reports that his two biggest rockets in his fleet, **Mobile Rocket Gundam** and **Macross Plus**, are being rebuilt for **LDRS 25**. In the case of the **Gundam** rocket, it will be reconfigured to take three additional 38mm motor mounts. Current plan is to launch it on a central **L730** and then ignite the **I285's** soon after liftoff.

Jeff Moon talks about some kits he recently found at HobbyTown.

Robert Marcotte talks about his Level 2 rocket.

David Austerberry shows the **KPTM Fox 42** news clip featuring him and his **TARC** team.

David along with **Andrew Wimmer** talk about their experiences at this year's TARC competition. Andrew and his team ended up in third place. Dave's team ended up in 21st place. Congratulations to both teams! Buzz Aldrin signed both Andrew and Dave's rockets. Both Andrew and Dave show pictures and videos from the event.



Trophy and plaque won by Andrew Wimmer's TARC team.

Tripoli and NAR elections are coming up. **MAKE SURE TO VOTE!**

Bruce Lee reports the current ATF lawsuit situation. The **Delta III** will be flown at LDRS 25 on Monday July 3rd. It will be powered by a central P motor and nine L motors in the strap-on boosters.

Nebraska Heat 9 is a week from this weekend. Need to determine if a research day needs to be held on Friday. (*Lack of interest resulted in the research day on Friday being canned*).

The issue of fire equipment at our high power launches is discussed.

Meeting and auction adjourned at 20:34.

THOR Meeting Minutes 7/11/06

Attendance: *Richard Burney, Bruce Lee, Robert Marcotte, Trey Marcotte, Arley Davis, Sherri Bosworth, Rick Bosworth, David Austerberry, Kevin Trojanowski, Denis Gilbert, Kevin Rich, and Larry Drake.*

Meeting starts at 19:15.

Bruce Lee talks about LDRS 25 and other developments.

Tripoli is considering being more flexible in allowing expired members to keep their previous certification Level when their membership had expired.

LDRS 26 will be held outside of Las Vegas, NV next July.

Richard Burney talks about his two big flights at LDRS 25. Rich was able to get press access to the launch range and got lots of great pictures including of the **Delta III**.

Kevin Rich discusses the success his parachutes on the Delta III.

Denis Gilbert talks about some of the flights he did at LDRS.

Sherri Bosworth plans on doing her Level 2 at AIRFest this Labor Day weekend. She plans on doing her Level 3 at LDRS 26 next year.

Since **David Austerberry** was in the top 25 winners for this year's **TARC** competition, his sponsoring teacher gets to go down to Space Camp in Huntsville, AL. David mentions that next year's TARC may involve video or photography.

Bill Richardson talks about his LDRS experiences.

Arley Davis shows his latest acquisitions.

Larry Drake shot a nice long digital movie of the Delta III. A lower resolution version is posted at <http://www.insaneprojects.com>.

Kevin Trojanowski goes over treasury matters that Tom Kernes (treasurer) had e-mailed to the rest of the officers.

Richard Burney shows some of the digital pictures he took at LDRS.

Meeting adjourned at 21:10.

THOR Meeting Minutes 8/1/06

Attendance: *Richard Burney, Bruce Lee, Arley Davis, David Austerberry, Denis Gilbert, Tom Kernes, Kevin Trojanowski, and Larry Drake.*

Meeting starts at 19:10.

More **LDRS 25** talk including issues involving the **Ritz Hotel** in Amarillo. The Ritz was the base hotel for LDRS and where the LDRS banquet was held. Poor conditions at the hotel resulted in a lot of complaints.

Richard Burney passes around some of his latest rocket magazines. Pretty much all of his digital pictures from LDRS 25 were submitted to both **Rockets** magazine and **Extreme Rocketry** magazine (*different batches of pictures were sent to each magazine*).

Larry Drake talks about his large scale **Little Joe II**. Might fly at Ball next year.

Denis Gilbert confirms that the **THOR Christmas Party** is on track for the evening of **Friday December 1st**.

Both **Andrew Wimmwer** and **David Austerberry's TARC** supervisors got to go to **Space Camp** in Huntsville, AL.

Arley Davis talks about what he's been up to.

Meeting and auction adjourned at 20:38. ✦



David Austerberry (left) and Andrew Wimmer (third from right) with their fellow TARC team members and the rockets each team used. Andrew's team from West Point/Beemer Jr./Sr. High School placed 3rd while David's team from Benson High here in Omaha placed 21st. Congratulations go out to both teams!



What is THOR?

The Heartland Organization of Rocketry (THOR) is both an officially sanctioned Prefecture of the Tripoli Rocketry Association (Tripoli Nebraska #46) and Section (#562) of the National Association of Rocketry. THOR strictly adheres to the safety guidelines established by both rocketry associations.

THOR has been actively involved in the hobby of model rocketry (low power, high power, and experimental) in southeast Nebraska and southwest Iowa since the early 1990's. THOR members, along with their projects, have appeared on national television programs such as *Master Blasters* (The SciFi Channel), *Rocket Challenge* (The Discovery Channel), *Extreme Machines* (The Learning Channel), *Junkyard Wars* (TLC), and *Ripley's Believe It Or Not* (TBS).

When and where does THOR meet?

Meetings are usually held the first Tuesday of the month at the La Vista Community Center at 8116 Parkview St., La Vista, NE – turn east at the Sinclair Gas Station on 84th St. and go a block east (look for the big US flag). Visitors are welcome to attend.

When and where does THOR fly?

From March through November, THOR conducts at least one high power launch (1/4A – N class) each month. High power launches are held east of Pickrell, NE which is 30 miles south of Lincoln. THOR conducts at least two three-day high power rocketry events each year: **Fire on the Farm** and **Nebraska Heat**. In the past, THOR has held low power sport launches in the Omaha area and hopes to do so again as soon as a new field is found.

THOR's Hammer...

THOR's Hammer is the official newsletter of THOR. On average, it is published on a quarterly basis. *THOR's Hammer* is available, in PDF format, through its website (<http://www.nerocketry.org/>) or is mailed to those without Internet access. Members are welcomed to contribute articles and pictures to the newsletter.

For additional information...

For any additional questions or to check on the status of an upcoming launch, call THOR locally at (402) 505-3721 (there is a voice mail option at the end of the message). Interested parties may also write their inquiries to the address at the right and are also welcome to contact any of THOR's officers.

THOR Membership Application Personal Information

Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Phone Number: _____

E-mail: _____

Hobby Information

How long have you been in model rocketry: _____

Do you belong to a national rocketry organization - enter your membership number to the applicable organization:

NAR# _____ TRA# _____

Are you certified for high power rocketry – check mark your applicable TRA and/or NAR Certification Level:

Level 1 _____ Level 2 _____ Level 3 _____

Membership Rates

Half year membership rates will be divided by 2 and will add \$1. Write you check payable to "The Heartland Organization of Rocketry" or "THOR". Mail check and form to the below address or bring to the next meeting.

Family Membership - \$36
Senior Membership (18 and over) - \$24
Junior Membership (18 and under) - \$12
Correspondence Membership (members over 50 miles away from Omaha) - \$10

I agree to comply with THOR's policies as pertains to the safety guidelines set forth by Tripoli and the NAR. Failure to do so or conduct deemed unbecoming may result in expulsion from the club.

Signature: _____

Dated: _____

The Heartland Organization of Rocketry
625 Walnut Street
Hickman, NE 68372

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