



T.H.O.R.

The Heartland Organization of Rocketry



July/August 2003

---FREE---

Volume 10 Number 4



Bruce Lee assists Cub Scouts of Pack 396 at the La Vista field. (Richard Burney)

Summer Meeting Schedule

Tuesday August 5th and Tuesday September 2nd. Each meeting will start at 7:00 PM at the La Vista Community Center.

August 2003 Calendar

August

Event: NARAM 45.

When: Saturday the 2nd through Friday the 8th.

Where: Evansville, IN.

Description: NAR's week of model rocketry competition. Typically there is a lot of sport and some high power flying, too.

For More Information: Go to <http://www.naram45.org>.

Event: Low Power Launch.

When: Sunday the 10th, Noon to ?

Where: La Vista Sports Complex.

Fee: Free.

Description: Low power sport flying.

For More Information:

Event: High Power Launch.

When: Saturday the 16th, 9:00 AM to 5:00 PM.

Where: Pickrell, NE.

Ceiling: Our standing waiver is 10,000 MSL (8,650 AGL) for the majority of the day, with a window to 15,000 MSL (13,650 AGL) from 1PM - 3PM.

Fee: \$5.

Description: Mainly a high power event, but regular model rockets are flown, too.

For More Information: Check the rocketry hotline (1-402-896-2069 or 1-888-546-0396) for any delays or cancellations if weather looks questionable.

Event: AIRFest IX.

When: High power commercial flying from Friday the 29th through Sunday August 31st. Experimental flying on Monday September 1st.

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: Go to www.kloudbusters.org/airfest.html.

Rocketman Central

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

Who are the real "Potential Terrorists"?...

When Osama bin Laden launched his scheme to bring down the World Trade Center towers in New York, the Pentagon, and some other target in Washington DC using commercial airliners, his target was not just the innocent lives onboard those planes and buildings. It was to also hurt this nation's economy and to put a dent into the freedoms and liberties of its people. Osama knew that there are quite a few officials within our government, especially at the federal level, whose knee jerk reaction to the events of September 11th, 2001 would be to put ever increasing demands and restrictions on the lives of its citizens and the commerce of its businesses.

The way the model rocketry community, hobbyists and businesses alike, has been effected by the Safe Explosives Act of the Homeland Security Act and the ever increasing demands/restrictions of the ATF are examples of just the kind of damage that bin Laden, al-Qaeda, and other Muslim extremists have set out to do to this country.

Since earlier this year, there have been those in our government, like Wyoming Senator Mike Enzi, who have come forward as a voice of reason. Senator Enzi and his staff have put a lot of effort into pushing through Congress a bill (S.724) that would help restore some of our freedoms lost due to the SEA. Enzi's efforts these last few months have been greatly appreciated by the rocketry community.

But, as seen in the articles to the right, there are those in Congress, along with the heads of the ATF, who are now stepping forward to greatly limit and destroy our creative, scientific hobby just to make a grab for power.

One of the goals of terrorism is to stop and/or impede the activities of its enemies, whether real or perceived. When it comes to the issue at hand, one must wonder who the "potential terrorists" really are: those of us, young or old, who are involved in a creative, scientific hobby which carries on America's pioneering spirit or the government agencies and politicians who seek to ruin our hobby when they have little understanding about the facts about model rocketry and the people involved. I'll let the readers come to their own conclusions.

LDRS XXII...

LDRS XXII has come and gone and it was quite a memorable event! Due to all the pictures and material I have, I will probably be splitting the September/October issue into two separate issues. As for this issue, the main coverage will be of Nebraska Heat VI. Enjoy!

Joint Press Release, July 29, 2003

Reprinted from www.nar.org

Using inaccurate and scientifically insupportable information, two U.S. Senators today attacked amateur and hobby rocket enthusiasts across America.

"It is unconscionable that two U.S. Senators would attack the legitimate interests of law-abiding hobby rocket enthusiasts without even getting the facts straight," said Mark Bundick, president of the National Association of Rocketry, and Richard Embry, president of Tripoli Rocketry Association, the largest hobby rocketry groups in America.

"Senators Schumer (D-NY) and Lautenberg (D-NJ) are wrong on the facts and wrong on the science, and their outrageous distortions have done a major disservice to tens of thousands of people," Bundick and Embry added

In a news conference in Washington today, Sens. Lautenberg and Schumer alleged that a bill pending before the U.S. Senate would allow terrorists and criminals to "acquire large amounts of explosive rocket propellant without law enforcement's knowledge," and that "model rockets could be turned into missiles with a range of nearly five miles."

"Those are gross misstatements," Bundick said. "The rocket propellant they are referring to is not an explosive, and hobby rocketry activities are already regulated and controlled by a variety of agencies. Moreover, hobby rockets do not have guidance systems and cannot be used as offensive missiles. We're talking about amateur rockets, built at home, that fly straight up into the air, pop apart, then float back to Earth under a parachute."

The bill in question, S. 724, would allow hobby rocket enthusiasts to purchase small amounts of black powder and rocket propellant. Larger purchases would require the buyer to obtain a federal permit from the Bureau of Alcohol, Tobacco, Firearms and Explosives, a process that includes a background check.

"Children and adults alike have enjoyed this safe, educational hobby for more than 40 years without incident, and now all of a sudden we're equated with terrorists." – Dick Embry, President TRA

"This is a prime example of the government over-reacting to something that is not a threat," Embry said. "Children and adults alike have enjoyed this safe, educational hobby for more than 40 years without incident, and now all of a sudden we're equated with terrorists. Reasonable regulation is fine, but these Senators are being wholly unreasonable, and the victims here are all the people across America whose hobby is being destroyed."

Enzi decries hobby rocket opposition

Reprinted from www.nar.org

Washington, D.C. - U.S. Sen. Mike Enzi, R-Wyo. disagreed with two senators' efforts to block legislation introduced by Enzi that would shield some model rocket enthusiasts from Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) regulations that have threatened the hobby. U.S. Sens. Charles Schumer, D-N.Y., and Frank Lautenberg, D-N.J. held a news conference today promoting regulation of hobby rocketry.

Enzi made the following comments after the news conference.

"It's a sad state of affairs when we see a government agency and senators go to such lengths to squash efforts to preserve a constructive, educational and important hobby enjoyed by millions of Americans. This kind of opposition to my legislation serves to discourage innovation and darken spirits. It doesn't make Americans that much safer, but it does make us more fearful and less free."

"It's a sad state of affairs when we see a government agency and senators go to such lengths to squash efforts to preserve a constructive, educational and important hobby enjoyed by millions of Americans." – Senator Mike Enzi

"When I introduced this bill I hoped it would pass quickly. I thought that surely it was not Congress' intent when it passed the Homeland Security Act to make it more difficult for young people to enjoy model rocketry and hobby shop owners to make a living, but it appears this was the intent of at least two members."

"You can drag out all the dressed-up props you want, high-powered rockets are already regulated and this would not change under my bill. My legislation, after modification and passage by the Judiciary Committee, represents a compromise that takes into account the concerns of other senators regarding potential terrorist activity even though there is no known pattern of attempts by terrorists to use unguided hobby rockets as weapons. My bill would simply allow rocketeers to transport and purchase rocket motors that contain less than .9 pounds (409.5 grams) of APCP rocket propellant without being required to obtain a permit from the ATF."

"My bill is not a license to build bombs and the senators know it. A National Research Council study, Containing the Threat from Illegal Bombings, listed the top 29 common explosive and precursor chemicals with demonstrated potential and history of criminal use. It did not list APCP or recommend controls on it. Everyone is entitled to their own opinions, but not their own facts."

"My colleagues must be hearing complaints from back home about their holdup of my bill. I hope rocketeers will continue to educate their elected leaders about the merits of my legislation. I will continue to work to pass this common sense bill."

THOR High Power Launch Pickrell, NE – May 17th

Article and pictures by Richard Burney

Continuing a string of excellent flying days this spring, the May 17th launch at Pickrell was a beautiful, sunny day with winds typically in the 5 to 10 mph range and a high somewhere in the upper 70's. With the ATF's regulations effecting motors above 62.5 grams and above about to kick in on May 24th, some rocketeers were making their last minute attempts at Level 1 and 2 Certifications. Here are a few pictures I took.



A nice shot of Matt Jones semi-scale V-2 appearing from a cloud of smoke created by a Pro54 K570.



Rick Bosworth, his wife, and two unknown spectators sit back and enjoy the day. Nice rockets!



Karen Wiley and her "Toaster Version 4.0"... the fins were made to look like real pieces of toast!



"Toaster 4.0" lifts off on a Pro38 H153.

THOR Sport Launch La Vista, NE – June 8th

Article and pictures by Richard Burney

Besides being a regular sport launch for THOR, this occasion also allowed THOR to share this hobby of ours with Cub Scout Pack 396. A special thanks to Scoutmaster Bill Meyers and the rest of Pack 396 for spending the afternoon with us.



THOR and Pack 396 members ready for some flying!



A Big Bertha is launched.



A few Quest Big Bettys were also flown that day.

Nebraska Heat VI June 13th – June 15th, 2003

Article and pictures by Richard Burney

Just like Fire on the Farm, THOR's annual Nebraska Heat launch celebrated its fifth anniversary as being a major regional launch for this part of the Midwest. Like the rest of THOR's high power launches this year, launch conditions were good all weekend; plenty of sunshine, highs in the 80's, and wind conditions ranging from dead calm to about 10 mph.

Friday, June 13th ...

The first day was spent preparing the site for flying along with continuing some of the improvements to the field such as the addition of gravel for us to drive on along with a more permanent electrical set up (a special thanks to Matt Jones) and a small weather tower (a special thanks to Doug Buhrman). Several experimental flights were conducted during the day.

Saturday, June 14th ...

The majority of flights for NH VI took place this day. Throughout the day, Kent Burnett served as Giant Leap Rocketry's representative at the launch, selling Giant Leap rocket parts/components along with lots of Cesaroni motors; due to the current drought of AeroTech motors, this was pretty much an all Pro38/54 launch! After a banquet in the evening, a night launch took place after 9:00. Below are a few of those flights.



After an unsuccessful attempt in May, Troy Muller made another attempt for his Level 1 with the same rocket using an AeroTech H180.



Troy gets a picture of his rocket about to land. This time the flight was flawless. Congratulations, Troy!



Matt Jones and his semi-scale V-2. Matt has flown it a few times this spring on AeroTech and Pro54 K's.



George and Andrew Wimmer with their BIG upscale of a Black Cat bottle rocket.



Liftoff on a Pro38 G69. Due in part to it being underpowered, the rocket only got up about 50 feet.



Watch the dirt fly! Liftoff on a Pro54 K570.



**“Kent! Stop fooling around and get back to work!”
Doug Buhrman and Kent Burnett with Doug’s PML
Quasar ready for a Level 1 certification flight.**

Sunday, June 15th ...

Though this was the last day of NH VI, there were still some pretty impressive flights. This included the return of George and Andrew Wimmer with their Black Cat bottle rocket upscale (a much better flight this time).



**Jason Vernard and everyone’s favorite web-slinging
rocket, “Spiderman”! Stan Lee would be proud!**



**Jeff Moon’s G-Force’s flight came to an abrupt end
when the H97’s ejection charge went off early due to
a burn-through. Tough luck, but a cool picture!**



Liftoff on an AeroTech G64.

NASA's Space Place

<http://spaceplace.jpl.nasa.gov/index.shtml>
From the Belly of an Airplane: Galaxies
By Dr. Tony Phillips

and see a video about Pegasus at <http://spaceplace.nasa.gov/galex/pegasus.html>.

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



L-1011 "Stargazer" takes off to carry Pegasus rocket on the first 39,000 feet of its climb to deliver a spacecraft to orbit.

On April 28th a NASA spacecraft named GALEX left Earth. Its mission: to learn how galaxies are born, how they grow, and how they die.

"GALEX-short for Galaxy Evolution Explorer-is like a time machine," says Caltech astronomer Peter Friedman. It can see galaxies as far away as 10 billion light years, which is like looking 10 billion years into the past. The key to the mission is GALEX's ultraviolet (UV) telescope. UV rays are a telltale sign of hot young stars, newly formed, and also of galaxies crashing together. By studying the ultraviolet light emitted by galaxies, Friedman and colleagues hope to trace their evolution spanning billions of years.

This kind of work can't be done from the ground because Earth's atmosphere absorbs the most energetic UV rays. GALEX would have to go to space. To get it there, mission planners turned to Orbital Science Corporation's Pegasus rocket.

"Pegasus rockets are unusual because of the way they're launched-from the belly of an airplane," says GALEX Project Engineer Frank Surber of JPL.

It works like this: a modified L-1011 airliner nicknamed Stargazer carries the rocket to an altitude of 39,000 feet. The pilot pushes a button and the Pegasus drops free. For 5 seconds it plunges toward Earth, unpowered, which gives the Stargazer time to get away. Then the rocket ignites its engines and surges skyward. The travel time to space: only 11 minutes.

"The aircraft eliminates the need for a large first stage on the rocket," explains Surber. "Because Stargazer can be used for many missions, it becomes a re-useable first stage and makes the launch system cheaper in the long run." (To take advantage of this inexpensive launch system, GALEX designers had to make their spacecraft weigh less than 1000 lbs-the most a Pegasus can carry.)

A Pegasus has three stages--not counting the aircraft. "Its three solid rocket engines are similar to the black powder rockets used by amateurs. The main difference is that the fuel is cast into a solid chunk called a 'grain'-about the consistency of tire rubber. Like black powder rockets, once the grain is lit it burns to completion. There's no turning back."

In this case, turning back was not required. The rocket carried GALEX to Earth orbit and deployed the spacecraft flawlessly. On May 22nd, the UV telescope opened its cover and began observing galaxies-"first light" for GALEX and another success story for Pegasus.

For adults, find out more about the GALEX mission at <http://www.galex.caltech.edu/>. Kids can read

**THOR Meeting Minutes:
May/June 2003**
Compiled by Richard Burney, Secretary

THOR Meeting Minutes 5/6/03

Attendance: Richard Burney, Bruce Lee, Bill Richardson, Arley Davis, Jacob Davis, Scott Pearson, Greg Rothman, Kevin Rich, Doug Buhrman, Joe Ebacher, Doug Holverson, Jon Damme, and Troy Muller.

Meeting starts at 19:10.

Tripoli legal defense raffle is held.

Joe Ebacher and Troy Muller are introduced to the club.

Contest lineup for First TV's "Rocket Challenge" involvement with LDRS has almost been finalized.

Rich Burney passes around the pictures he took at Fire on the Farm VI. Rich also passes around the letter he received back from Senator Ben Nelson's office in regards to Senator Michael Enzi's proposed legislative relief for model rocketeers.

Doug Holverson has some extra launch pads and controllers he received from John Carroll before he moved. Doug donates them to the club. They will be used as giveaways at an upcoming Scouting event that Kevin Trojanowski and Bruce Lee will be conducting.

April's sport launch will be rescheduled to May 18th to coincide with the model rocket flying involving Cub Scout Pack 396.

Jon Damme recently picked up a magazine that *Life* recently published a magazine, *Man in Space*, chronicling the history of space exploration. Due to the limited range of the magazine's content, it appears it was put together immediately after the Columbia tragedy which is mentioned in the magazine. As of May, it was available in book and department stores.

Greg Rothman shows his the Hypertek hardware, for J's and K's he has. He used it for a J flight at Fire on the Farm.

Arley Davis has some of the newest Estes and Quest kits released this spring.

Bill Richardson shows his 4" diameter upscale of the Estes Fat Boy. It has a 38mm motor mount and is designed to take up to a J. Bill has flown it on H's so far. Bill shows the work he has done on the LOC Cyclotron he won at LDRS last year.

Almost \$800 was raised from FOTF VI.

Work is progressing on establishing the Pickrell site with permanent wiring, a gravel road leading to the pads/launch range, and a small weather station (courtesy of Doug Buhrman). Some of the work for these improvements was done at FOTF.

Help will be needed to repair Candy's *Witch Candy* (Zoom Broom upscale) if it is to be flown at LDRS.

Meeting adjourned at 21:00.

THOR Meeting Minutes 6/3/03

Attendance: Richard Burney, Thomas Kernes, Jon Damme, Doug Buhrman, Jeff Moon, Arley Davis, Jacob Davis, Scott Pearson, Rick Bosworth, Kevin Trojanowski, Greg Rothman, Joe Ebacher, Troy Muller, Bruce Lee, Doug Holverson, Matt Jones, and Larry Drake.

Meeting starts at 19:20.

Bruce Lee reports that the regulatory relief being pushed through Congress is stalled due in part to the pending verdict of Tripoli/NAR's lawsuit against the ATF. Due to all the responses from many individuals and industries effected by the Safe Explosives Act and the upcoming NRPM, the ATF has extended the response date to June 15th.

The Rocket Challenge contest info is currently accessible through a link from both the Tripoli and LDRS XXII web pages.

Ky Michaelson has recently purchased the actual Porta Potty that will be turned into a flyable rocket at LDRS.

Bruce shows the bottom fin canister for the 50+ foot tall rocket that he, Greg, both Kevin's, and Larry Drake are building to be flown at LDRS. PML. Rocketman Enterprises, and Missileworks are the sponsors for this project. This will be the tallest model/high power rocket ever flown to date.

Greg Rothman shows his Level 3 rocket. Will be flown on a Hypertek M1010 at LDRS.

Kevin Trojanowski shows his Pro-X motor reload hardware which is for his own homemade motors. Similar to Thunderflame.

Rick Bosworth made the discovery that the Bomarc kit that North Coast and Estes made has the same exact markings and serial numbers as the one on display at Beale AFB. Rick's dad was involved with the Bomarc program.

Larry is in the middle of constructing his 303 Estes D11 cluster rocket. The cost of the flight will be 3 times of what an equivalent composite M motor would cost!

When Jeff Moon was in the hospital, he met a former Nike Hercules technician. Jeff hopes to bring the guy to a future meeting.

Jon Damme shows the repair work he is doing to his "Rinky Dinky" tube rocket.

Rich Burney passes around some of the pictures he took he took at the launch at Pickrell on the 17th. Rich shows the work that has progressed on his latest rocket, "Mobile Rocket Gundam".

Doug Holverson shows some of his old Estes and Centuri kits and some other things.

A reminder is made that the next low power sport launch will be on the 8th.

Bruce won't be able to make it to Nebraska Heat. Bruce will be participating with the rest of the CSXT team in test flying a Q motor which will serve as the prototype for the next space shot planned in October.

Independence Day party to be at Bruce's house.

LDRS next month! First TV will be filming from Saturday through Monday.

Pickrell launch in August may need to be rescheduled due to planned display at Offutt air show.

Treasurer's report: \$723.44 in THOR account. \$1000+ in income and \$600+ in expenses these last few months.

Tripoli legal defense raffle is held.

Meeting adjourned at 21:40.

CLUB OFFICERS

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NEWSLETTER EDITOR - Richard Burney

THOR on the Super Information Highway!

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

What is THOR?

The Heartland Organization of Rocketry (THOR) is both an officially sanctioned prefecture of the Tripoli Rocketry Association (Tripoli Nebraska #46) and is an officially sanctioned Section (#562) of the National Association of Rocketry. THOR conducts low through high power model rocket activities through out the year. THOR strictly adheres to the safety guidelines that have been established by the NAR and Tripoli.

When and where does THOR meet?

Meetings are usually held the first Tuesday of the month at 7:00 PM (different days or times will be announced in advance) 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). Visitors are welcome to attend.

For additional information...

For club launch times, launch locations, or for those with additional questions call THOR at (402) 896-2069 or toll free 1-888-546-0396 (there is a voice mail option at the end of the message). Interested parties may also write their inquiries to the address to 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 number to the applicable organization):

NAR# _____ TRA# _____ NERO# _____

Are you certified for high power rocketry (check mark your applicable TRA or NAR Certification Level):

Level 1 _____ Level 2 _____ Level 3 _____

Membership Rates

½ year memberships will divide by 2 and add \$1. Write your check payable to "The Heartland Organization of Rocketry" or "THOR". Mail it to the below address or pay at the next meeting.

Family Membership - \$36

Senior Membership- 18 and over - \$24

Junior Membership - Under 18 - \$12

Correspondence Membership - \$10

(Members over 50 miles from Omaha)

Newsletter Only (6 issues a year) - \$6

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

Signature: _____

Dated: _____

The Heartland Organization of Rocketry
6211 South 141st St.
Omaha, NE 68137

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