



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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Fall 2005

---FREE---

Volume 12 Number 6



On September 5th near Argonia, KS members of THOR pushed the envelope of high power rocketry with this 1/5th sport scale model of the Delta III. (From <http://www.insaneprojects.com>)

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

Home page for NASA's Space Place program of which THOR has participated in since 2003.

<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.

Fall 2005 Calendar

October

Event: Low Power Launch.

When: Sunday the 2nd, Noon to ?

Where: La Vista Sports Complex.

Fee: Free.

Description: Low power sport flying.

Event: October Meeting.

When: Tuesday the 4th, 7:00 to 10:00 PM.

Where: La Vista Community Center.

Event: "To Be Named!"

When: Experimental day on Friday the 14th. High power commercial flying on Saturday the 15th and Sunday the 16th, 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 1st, 7:00 to 10:00 PM.

Where: La Vista Community Center.

Event: Low Power Launch.

When: Sunday the 6th, Noon to ?

Where: La Vista Sports Complex.

Fee: Free.

Description: Low power sport flying.

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.

December

Event: Christmas Party.

When: Friday the 2nd.

Where: Denis Gilbert's house.

Fee: Free... but make sure to bring food and drinks.

Description: THOR's annual Christmas party!

For More Information: Final details for the party will be determined ahead of time. A map for directions to Denis' house is posted on the THOR web page.

Event: December Meeting.

When: Tuesday the 6th, 7:00 to 10:00 PM.

Where: La Vista Community Center.

Editor's Hammer

By Richard Burney, Secretary and Newsletter Editor

Spring Forward, Fall Back...

Due to a busy schedule this summer and fall, instead of having the regular September/October and November/December issues of this newsletter, I am condensing things into one single fall issue. Considering that I have already put out 5 large issues for this year already, this issue brings the total for this year up to 6 so I have kept to the average rate we have maintained for most of this newsletter's life. If all goes well, I will be back to the regular bimonthly schedule at the end of the year. But due to a lot of things developing for me right now that are going to be taking up more and more of my time, I might possibly go with either a quarterly rate or may have to call it quits.

Again, support by our membership in the form of articles, write-ups on our launches, reviews, and pictures are always appreciated.

NAR LAC Award...

For the second year in a row, **THOR's Hammer** was a runner up for the **National Association of Rocketry's (NAR) LAC Newsletter Award**. It was an honor that we were considered again, but at the same time, I also feel very let down. Over this past year, I have spent a considerable amount of time and effort creating each of these issues and constantly making efforts to further improve the content, size, and over all appearance of this newsletter. Though we have aimed for a constant average of 6 issues a year, during 2002 and 2003 I put out 7 issues a year and for 2004 it was 8 so this has been another area of improvement that THOR's Hammer has enjoyed.

Though one of the biggest faults of this newsletter has been the fact that much of it's content and responsibility has fallen squarely on my shoulders (one of the major scoring criteria is that the club newsletter appear to be the work of the full club, not just one or two of the members), I feel that I need to lay some criticism of my own towards the NAR LAC judges, the judging process, and even the LAC winner this year (the NARHAMS group from the Washington DC area - <http://www.narhams.org/> - and their ZOG-43 newsletter).

1) Lack of help or response from the LAC Judges – a number of times throughout the years, I have tried e-mailing the judges pertaining to questions about the LAC Award, information about our club and our newsletter distribution, etc. and I have hardly gotten a response. Only Robert Wiersbe, who I also deal with directly for publishing

our launch reports in *The Model Rocketeer*, has made a consistent effort to respond to me. (Mr. Wiersbe is no longer a judge as of the awarding of the 2005 award). Though part of my problem may have been that I was using Tom Beach's address old Compuserve address well after he changed it to the current AOL one, little was done to make that change publicly known. Also, to my memory, I have never received a response from judge Chuck Straka.

2) Failure to fully critique the newsletters – though *THOR's Hammer* could stand to have the involvement of more of its members, during the past year or so there have been improvements. Members such as Joe Michel, Jason Vennard, and Kevin Trojanowski have contributed some major articles pertaining to their own projects, designs, etc. We have also seen an increase in submission of pictures from members thanks to the ease and proliferation of digital photography. Also there has been numerous times where a lot of these articles I have gotten off of the Internet have been because they have been brought to my attention by other members (especially Dan Cramer). Based off of my conversation with Robert Wiersbe pertaining to this year's winner and why we didn't win, I just got the impression that there wasn't a serious effort by the judges to see what was actually being contributed to the newsletters by their club members.

3) Pictures – besides the “not enough members are contributing” issue being addressed, it was Robert Wiersbe's opinion that there were “too many pictures” in our newsletter and not the right text – to – picture ratio. Here I'm going to have to strongly disagree with the issue of what I am doing in the visual department of our newsletter. In this day and age of digital photography, modern day word processing and editing software for our PC's, multi-Gigabyte storage spaces on our computers, high speed Internet, ever increasing e-mail account sizes, etc., there is no reason why these newsletters cannot be more visual in their appearance. This is 2005... not 1995, 1985, 1975, nor 1965! Based off of my own discussions with our other club members, they often just browse at the pictures in each of these newsletters and hardly read any of the articles. Since the majority of rocketeers are men and since men are visually stimulated beings, going the heavy picture route is the way to go. It will satisfy the current membership more by actually seeing the events they participated in or missed. As for potential members seeing *THOR's Hammer* in a local hobby store or posted online, they are going to have a much better representation of what it is that we do as a club.

4) NARHAM's winning the award three times straight – if you check out the official LAC page (<http://www.mindspring.com/~sportrocketry/LAC.html>), not only has NARHAM's been given the

award three years straight, it has been the winner for quite a few times in the past. I have been looking over their issues from these past few years. It is a good newsletter, but I feel it has not made any major changes or improvements these past few years. And to be honest, their club has neither the energy and excitement that THOR has made itself famous for (where can I start – the 1/5th scale **Delta III, Stumpy, Our Stinkin' Rocket**, THOR's involvement with the **CSXT** rocket which went into space last year, our involvement in the record launch of 399 model rockets, Larry Drake successfully firing and flying a cluster of 269 A10 motors, the 1/3rd scale **Mercury Redstone, Nebraska Heat**, etc.)... it is this energy and excitement that I've been covering in our newsletter for years. This is obviously very controversial to say, but it is by all appearances that NARHAMS continues to get this award all these times because they are part of some "good ol' boys" network. It will be interesting to see who wins next year...

5) Failure of the LAC Award to go digital – I have brought it up to the judges before, but it is my opinion that they should be more open to receiving PDF files instead of having a hard copy mailed. This would increase the speed they get the issues from the clubs, it would save on mailing costs for the clubs (especially these bigger issues), and it would allow them to see it in color; to make a color copy of one of these 20+ page size issues at a place like Kinko's would cost nearly \$15 an issue!!! Quite a few of the rocket clubs out there, including the LAC winners and runners-up, have their issues posted online in Adobe PDF format.

During these past few years, this newsletter has slipped away from it being something I wanted to do, to trying to please others. I want to return to this newsletter and this hobby being something I want to do and enjoy... not some sort of chore. From this issue on until further notice, THOR's Hammer will no longer be a participant in the LAC Award.✦



One of the things I've been doing to start making this hobby fun for me again was finally starting construction on my Level 3 rocket. Though other things in my life have derailed it from being finished this year, I hope to fly this beast next spring or maybe at LDRS in Amarillo, TX next summer.

1/5th Scale Delta III

Pictures taken from <http://www.insaneprojects.com>

Kevin Trojanowski along with quite a few THOR members and non members (such as Pat Gordzelik) over this past year constructed a sport scale model of the Delta III satellite launcher

standing over 20 feet tall. Over the next few pages are some pictures of the construction and subsequent flight of this beast on September 5th at the KLOUDBusters' field near Argonia, KS. For more pictures and information go to Kevin's webpage above. Kevin is also doing a detailed article which will appear in a future issue of *Extreme Rocketry* magazine. †



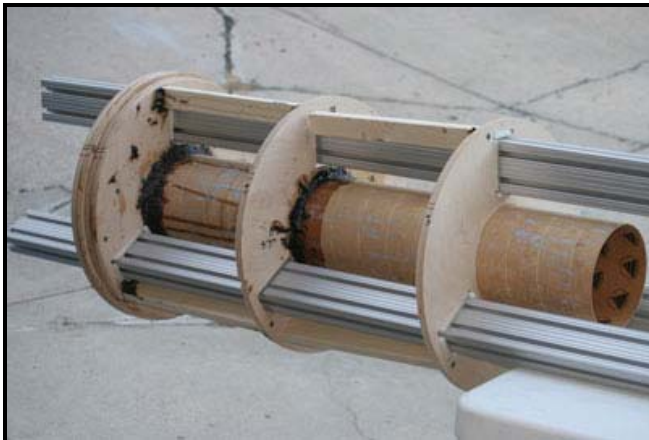
This gives you an idea of just how many bits and pieces are in this project. The scary thing is that it's not all shown - some nosecones and rings aren't present at the time this photo was taken!



(Left) Lower body tube, ready for the oven. (Right) Lowering the oven onto the lower body tube. When the tube is big enough, you bring the oven to the tube, instead of the tube to the oven!



(Left) Matt cutting the end off of the 24in upper tube. (Right) Cutting fin slots. Do you know how much fun it is to draw straight lines on a 108" long tube?



(Left) Semi-side view of the main motor mount. The 1x2 strips between the centering rings are to provide support while the entire assembly is slid into the airframe. This reduces the pressure on the motor tube which, being phenolic, is subject to cracking or breaking under too much stress. (Right) A whole lotta fins goin' on... It's starting to look like a rocket!



(Right) The 24" main nosecone after sanding. Matt really enjoyed working on this, as it provided the opportunity to pack about 2 pounds of foam shreds into the treads on his shoes, so that he could track it all over the house, before realizing it was there. Note the "precision crafted tool" Matt used for delicately shaping the main nosecone. (Right) Bolting the mold halves together, so that a layup can be done over the seam, then it goes back into the redneck oven until the nose is fully cured. Notice the strict adherence to OSHA guidelines, especially in terms of the non-slip footwear?



(Left) We have liftoff! Notice something missing? (Right) ...there it is! The P came up to pressure a bit late...



(Left) The first 3 boosters separate. (Right) The remaining 6 boosters separate.



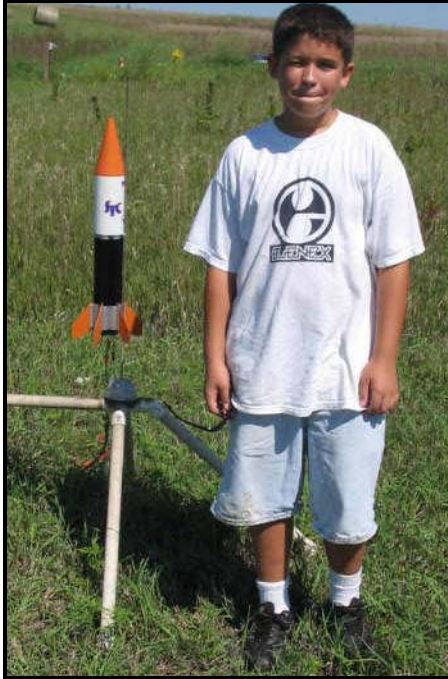
The altimeters fire the recovery charges. Yes, it's supposed to come apart like that. Though the main booster section was severely damaged due to the chutes stripping, Kevin and the rest of the team plan on rebuilding it and flying it at LDRS near Amarillo, TX next summer!

THOR High Power Launch Pickrell, NE – 8/20/05

Article and pictures by Richard Burney

The launch for Saturday, August 20th turned out to be an excellent, late summer day for flying: plenty of sunshine, highs in the upper 80's, and very little wind. But due to the fact that many of our most

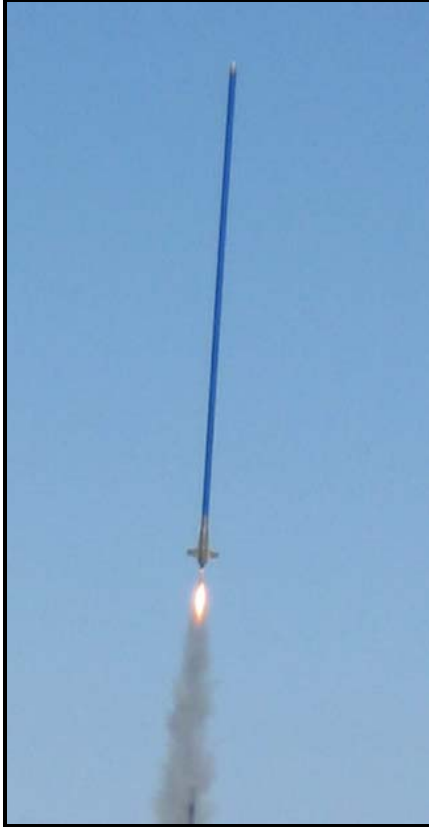
prolific flyers were heavily involved in finishing up the Delta III, there were less flights and less flyers than what would be expected on such a nice day. But those who did show up, made sure to put this great day to use. All together **15 flyers** conducted **43 flights**. Motors burned were as follows: **A – 9, B – 3, C – 9, D – 12, E – 2, F – 2, G – 1, H – 4, I – 3, and J – 1**. A special thanks goes to Kent Burnett and Tom Kernes for representing Giant Leap Rocketry at our launch. ✦



One of the first flights of the day was young Mike's Estes Rubicon powered by an E9.



Tom (left) and Ian Kernes with Tom's RCDP Flash. Flash has been flown on M class motors to over three miles up. For this flight, Tom sent Flash up 3,178 feet on a Pro54 J295.



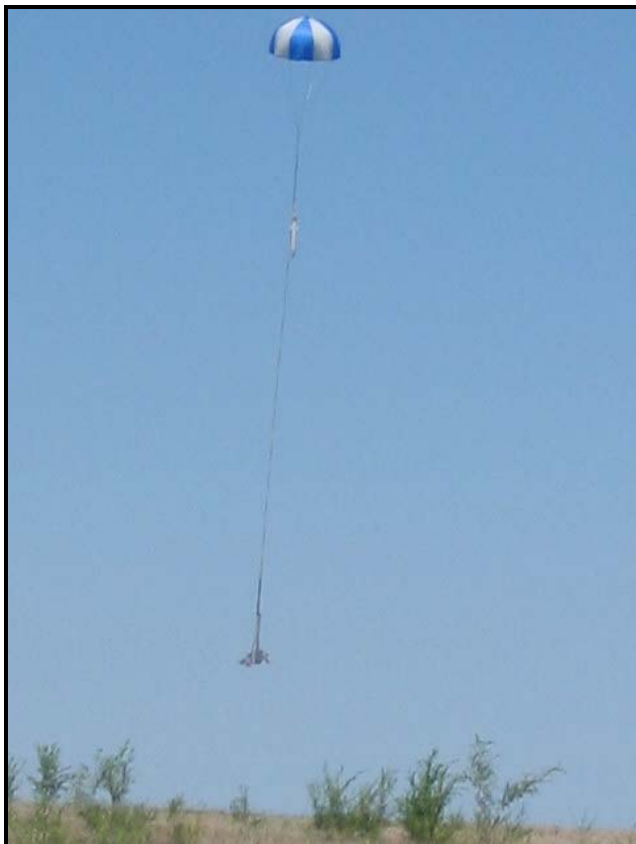
Chuck (left) and David Austerberry with David's *Tall Boy*. After having some igniter problems early on, *Tall Boy* finally went up on an AeroTech F21... better than the E9 "non-flight" a few months earlier!



Mark Havel sent his *Purple Haze* up on an I285 Redline.



Though not the biggest flight of the day, Joe's 2.7x upscale of the classic Estes Orbital Transport was definitely the one to check out. An H128 took it straight up in the calm skies.



The mother ship gently came down on a chute while the orbiter glided back to the Earth. Great maiden flight, Joe! More on the creation of this rocket can be seen at <http://www.geocities.com/jm44316/OT.html>.



After a two year absence, my *Final Fantasy VII* returned to action back in June only to be lost in the fields! Fortunately it was found by George and Barry Connor a few days later. Other then needing to replace the parachute, it was in good shape. For flight #2 this year, I went with an AeroTech I161.



Another not so "Final" flight for *FFVII*!

THOR High Power Launch Pickrell, NE – July 16th

Article by Richard Burney

Since I wasn't there at the launch, there isn't much to report besides the statistics. Because of the wind, LDRS, and our big Nebraska Heat launch less then a month earlier, there were just **9 flyers** conducting a total of **16 flights**... just a few more flights then our windy May launch! Motors burned were as follows: **B – 4, C – 3, D – 3, G – 2, H – 2, I – 1, and J – 2.**

Again, members are welcomed to volunteer and send write-ups and pictures to me to use for the newsletter. I can not, and will not, be at every single launch and I can not possibly cover every flight. ✦

Offutt 2005 Air Show August 27th – 28th

Article and Pictures by Richard Burney

This year marked the fourth time that THOR had a display at the **Offutt Air Force Base** air show/open house. Throughout the two day duration of the show, a few hundred mini editions of THOR's Hammer were handed out to interested spectators. For those who saw the air show program, a picture

of **Our Stinkin Rocket** was included along with a short plug for the group. The almost complete Delta III that Kevin Trojanowski and company have been working on for months was on display to the public for the first time. This was a great way for the club to get exposure to thousands of people in the Omaha metropolitan area.

A special thanks goes to Offutt AFB for once again having THOR as its guest, and a special thanks goes to all THOR members who ran the display throughout the weekend. ✦



Once again, THOR's presence was made at the Offutt air show/open house. Besides having the chance to promote ourselves to the public, it was a great chance to publicly display the big Delta III.



The US Navy's brand new F/A-18 Super Hornet (in this case the two-seat F model) performed both days.



Past meets present... Left - as part of the Navy's "Legacy Flight", one of the F/A-18F's flew with a Grumman F6F Hellcat (center) and a Vought F4U Corsair. Right - Two of the greatest fighter aircraft ever: a Boeing F-15D Eagle and a North American P-51 Mustang fly the Air Force's "Heritage Flight".



Even more classic warbirds! A former Soviet MiG-17 Fresco (the same one that performed last year) was flown in a mock dogfight against an F-86 Sabre. Guess who won?☺



And THE ultimate warbird of them all. After flying over several other air shows and air refueling off of the east coast, the Northrop Grumman B-2 Spirit, *Spirit of Alaska*, did a double flyby of our show.

Rocket Record Scouts break world record

Reported by wowt.com, September 18, 2005
Pictures by Richard Hawes and Greg Rothman

Some Omaha boy scouts are looking to mark their place in the history books -- the Guinness Book of World Records, to be exact.

Local scouts set off 408 rockets all at once at 10 a.m. Saturday at the north Omaha airport, in an attempt for the prior simultaneous launch record of 300.

"Providing that they launch their rockets simultaneous, which means a minute and a half, and they launch more than 300 rockets, they will hold the Guinness Book of World Records," said Karey Koehn of Hobby Town USA.

It was organizer Joel Christensen's idea.

"My son and I bought a rocket one day, had a good time," he said. "We shot it a couple of times. Got with the pack, thought we'd have everyone in the pack shoot one. We did, shot about 60. Being guys, we thought what's the next step? So we decided we'd try to break the world record."

The troop did break the record. They completed a simultaneous launch of 399 rockets. ✦



THOR members including Greg Rothman (white shirt - top), Kevin Trojanowski (yellow shirt and knee brace - top), and Bruce Lee (bottom) helped Pack 363 with their final prep. (Hawes)



That's a lot of smoke! Here's what 399 model rockets in flight looks like. Regardless whether Guinness recognizes this accomplishment or not, the members of Pack 363 should be proud. (Rothman)

THOR's Bruce Lee on *Master Blasters*!

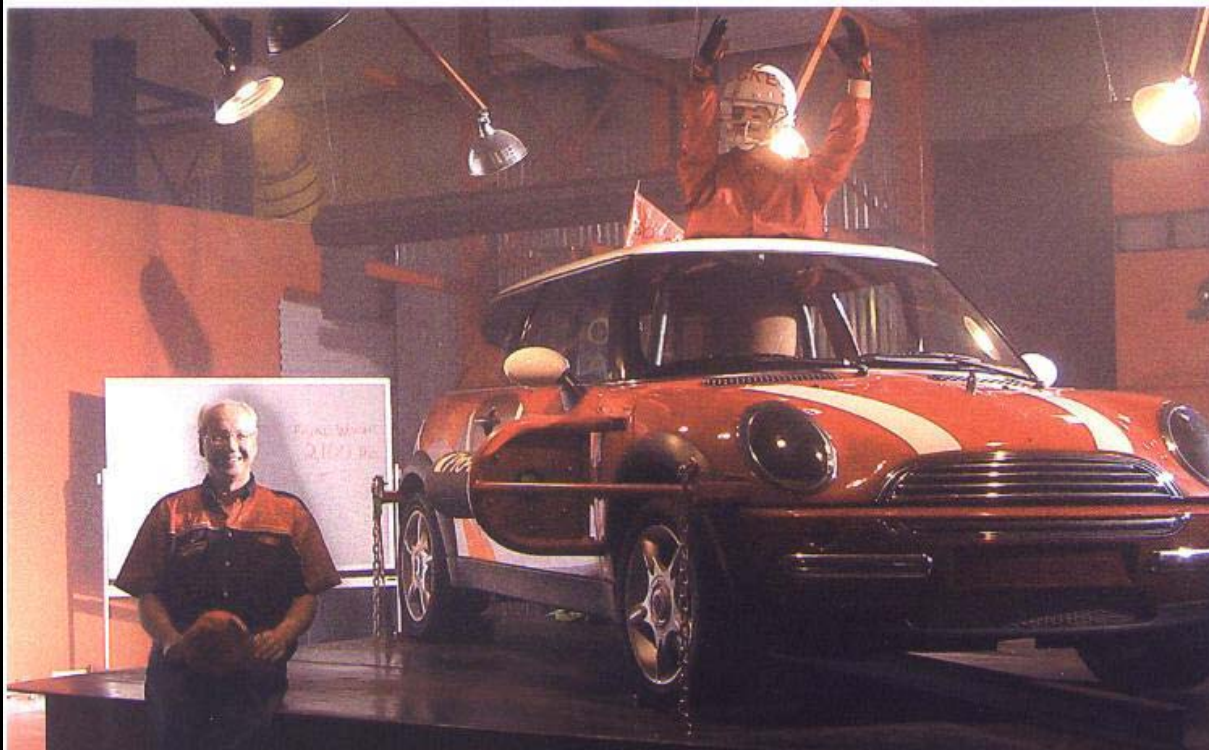
Sci Fi Channel - COX 53
Wednesday August 3 at
7:00 PM and 10:00PM

Bruce Lee and Team
Rocketman launch a Mini
Cooper Car in competition
against the Master Blasters
with rocket motors used to
launch Cruise Missiles.....



SCIFI.COM/MASTERBLASTERS

Sci Fi



THOR's very own president, Bruce Lee, was a member of "Team Rocketman" on the second episode of *Master Blasters*. The goal of that episode was to take a Mini Coop and fly it through a football goal post using the same Cesaroni motors used to launch Tomahawk cruise missiles. Though Bruce's team lost, it was an awesome episode! Here's hoping another cable channel picks this show up! (Bruce Lee)



<http://spaceplace.nasa.gov/en/kids/>
Where No Spacecraft Has Gone Before
By Dr. Tony Phillips

In 1977, Voyager 1 left our planet. Its mission: to visit Jupiter and Saturn and to study their moons. The flybys were an enormous success. Voyager 1 discovered active volcanoes on Io, found evidence for submerged oceans on Europa, and photographed dark rings around Jupiter itself. Later, the spacecraft buzzed Saturn's moon Titan—alerting astronomers that it was a very strange place indeed!—and flew behind Saturn's rings, seeing what was hidden from Earth.

Beyond Saturn, Neptune and Uranus beckoned, but Voyager 1's planet-tour ended there. Saturn's gravity seized Voyager 1 and slingshot it into deep space. Voyager 1 was heading for the stars—just as NASA had planned.

Now, in 2005, the spacecraft is nine billion miles (96 astronomical units) from the Sun, and it has entered a strange region of space no ship has ever visited before.

"We call this region 'the heliosheath.' It's where the solar wind piles up against the interstellar medium at the outer edge of our solar system," says Ed Stone,

project scientist for the Voyager mission at the Jet Propulsion Laboratory.

Out in the Milky Way, where Voyager 1 is trying to go, the "empty space" between stars is not really empty. It's filled with clouds of gas and dust. The wind from the Sun blows a gigantic bubble in this cloudy "interstellar medium." All nine planets from Mercury to Pluto fit comfortably inside. The heliosheath is, essentially, the bubble's skin.

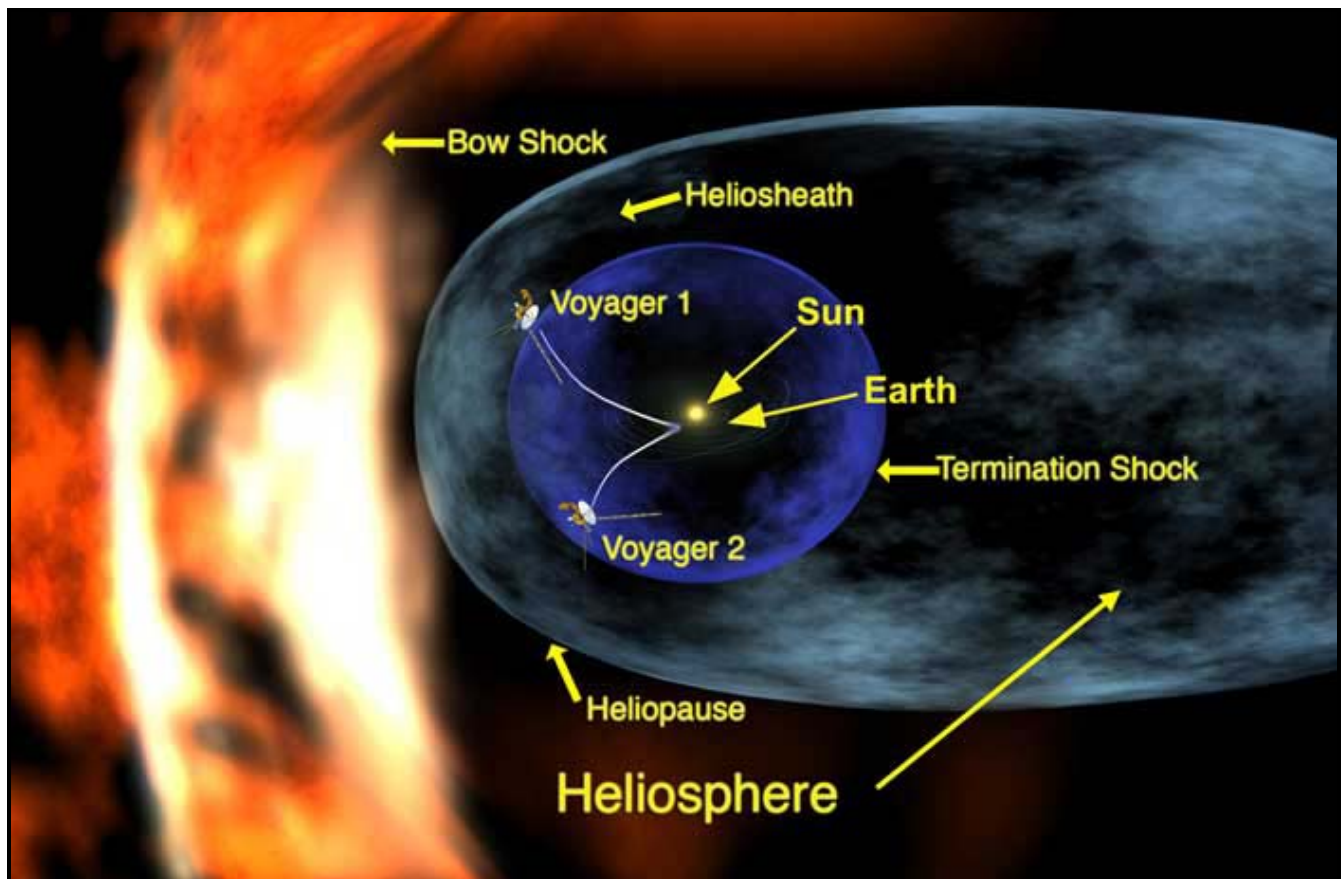
"The heliosheath is different from any other place we've been," says Stone. Near the Sun, the solar wind moves at a million miles per hour. At the heliosheath, the solar wind slows eventually to a dead stop. The slowing wind becomes denser, more turbulent, and its magnetic field—a remnant of the sun's own magnetism—grows stronger.

So far from Earth, this turbulent magnetic gas is curiously important to human life. "The heliosheath is a shield against galactic cosmic rays," explains Stone. Subatomic particles blasted in our direction by distant supernovas and black holes are deflected by the heliosheath, protecting the inner solar system from much deadly radiation.

Voyager 1 is exploring this shield for the first time. "We'll remain inside the heliosheath for 8 to 10 years," predicts Stone, "then we'll break through, finally reaching interstellar space."

What's out there? Stay tuned...

For more about the twin Voyager spacecraft, visit voyager.jpl.nasa.gov. Kids can learn about Voyager 1 and 2 and their grand tour of the outer planets at spaceplace.nasa.gov/en/kids/vgr_fact3.shtml. ↗



Voyager 1, after 28 years of travel, has reached the heliosheath of our solar system.

THOR Meeting Minutes

Compiled by Richard Burney, Secretary

Pictures by Richard Burney

THOR Meeting Minutes 7/5/05

Attendance: Richard Burney, Arley Davis, Jacob Davis, Doug Holverson, Kevin Rich, Dan Cramer, Denis Gilbert, Bill Richardson, Kevin Trojanowski, Greg Rothman, Doug Buhrman, Larry Drake, and Bruce Lee.

Meeting starts at 19:20.

Bruce Lee talks about some of his **Master Blasters** experiences, especially the accident at the launch site which resulted in the radial artery in his right wrist being severed. **Master Blasters** will air on the SciFi Channel starting July 27th.

The **HobbyTown USA** right off of the Irvington Street exit on I480 wants our club to do a flying demo sometime in the near future outside of the store.

Cub Scout Pack 363 from Gretna will be attempting to do a simultaneous launch of over 400 model rockets from the **North Omaha Airport** in September to set a new world record.

Motion is made for **Kevin Trojanowski** to get a new phone number for the club hotline.

Doug Buhrman is thanked for providing the club's new launch control system.

Possible **LDRS** contenders for 2006 are listed by Kevin Trojanowski including Amarillo, TX and Las Vegas, NV.

Larry Drake talks about some of the medical problems a number of his family members have been suffering; Larry probably won't be doing much in the way of rocket stuff this year.



Kevin Trojanowski shows one of the side boosters for the big **Delta III**. The canted motor tube is aimed towards the center of gravity.

Kevin Trojanowski shows one of the side boosters for the big **Delta III** that will be flown at **AIRFest** in September.



Doug Holverson's custom launch pads.

Doug Holverson shows a homemade radar gun he made. Doug shows two multi-pad launchers he made from two galvanized steel saw horses. Doug also shows a DVD he made showing some of his various rocket exploits including 8mm film footage of some model rockets that he and his fellow high school students flew back in 1976.



Arley Davis shows his Lunar Display Stand.

Arley Davis shows some of his recent creations. Arley shows a Canaroc Starfleet Scorpion he built with his own parts he is making for his **Arley's Spaced Out Rocketry** business. Arley has also made some moon terrain launch stands for displaying model rockets.

Richard Burney shows some of his digital pictures from **Nebraska Heat VIII**.

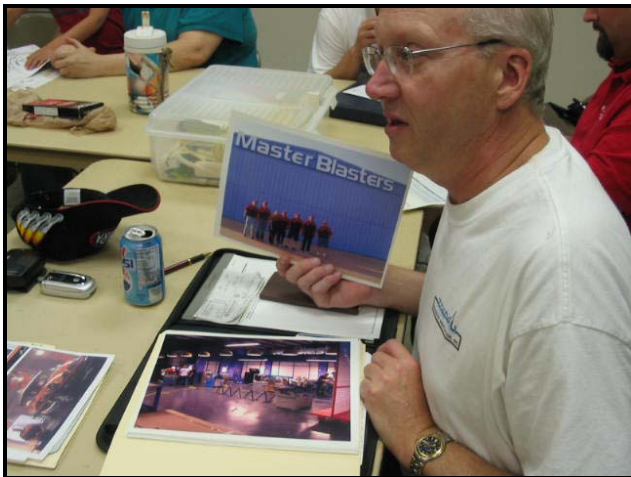
Meeting adjourned at 21:25.

THOR Meeting Minutes 8/2/05

Attendance: Richard Burney, Bruce Lee, Arley Davis, Jacob Davis, Kevin Trojanowski, Dennis Seagren (visitor), Austin Seagren (visitor), Andrew Berger (visitor), Greg Rothman, Scott Pearson, Denis Gilbert, Bill Richardson, Rich Baker, and David Austerberry.

Meeting starts at 19:10.

Bruce Lee goes into some of the details and shows pictures that he took from the episode of **Master Blasters** that he was in (airs tomorrow night!). The "Rocketman" team included **Bruce Lee, Ky and Jodi Michaelson, Bruce Kelly, and Dave Keninger**. Bruce talks about the injury he sustained in the accident before their Mini Coop was flown. Nine episodes were shot with one best of episode to be edited. NBC plans on a second set of episodes. Bruce hopes to be in the second season. Maybe more THOR members could possibly be, too?



Bruce Lee had a bunch of pictures to show of his involvement with the second episode of **Master Blasters**. The second episode aired on the SciFi Channel the next night (August 3rd).

Rich Baker shows some honeycombed, nomex fins he made; light weight and very strong.

Bill Richardson got another **Aiptek** digital video camera for \$50 from **Walmart**. It will be used in the big **Delta III**.

Denis Gilbert confirms that the annual Christmas party will be at his house on Friday December 2nd.

David Austerberry, who is from Benson High School, plans on entering next year's **Team America Rocket Challenge** contest.

Doug Holverson shows some kits he recently got. Plans on permanently retiring his **Holverson Design** company.

Arley Davis talks about his efforts to get his **Arley's Spaced Out Rocketry** online.

Bruce reports that **LDRS XXV** will be in Amarillo, TX next summer.

Bruce reports that **High Power Rocketry** magazine will soon be severed from Tripoli Rocketry Association. At the rate things are going, the magazine will probably cease to exist.

THOR has a new hotline number: **(402) 505-3721**.

Arley shows footage he shot with his camcorder at an early 1996 high power launch at **Mark Uhlenkamp's** home near Westside, IA.

Meeting adjourned at 20:50.

THOR Meeting Minutes 9/6/05

Attendance: Bruce Lee, Arley Davis, Jacob Davis, Jon Damme, Richard Burney, Doug Buhrman, Dan Cramer, Denis Gilbert, Jeff Moon, Nathan Warner, Greg Rothman, Kevin Trojanowski, and Larry Drake.

Meeting starts at 19:15.

Kevin Trojanowski shows a slide show of pictures and movies from his laptop of the construction and subsequent flight of the large **Delta III** at **AIRFest** just the day before. There were some issues with the flight such as the central P motor not firing up as quick as it should have, the strong winds, the subsequent arcing flight, and the main parachutes on the fin can section shredding resulting in that section being heavily damaged, but it was otherwise a very cool flight.

Bruce Lee reports why **Master Blasters** was taken off the air after just four episodes. It might possibly be picked up by ESPN, TLC, or another network. Hopefully all the remaining episodes will eventually be aired.

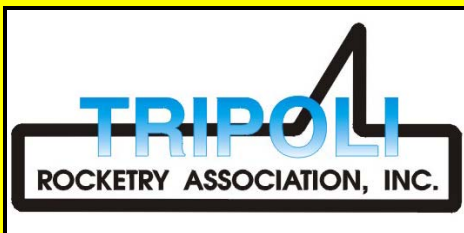
Kevin and several others are involved in drawing tickets for winners of the **Save Rocketry Now** raffle. Several THOR members (including me!) are among the winners.

Richard Burney reports that he will be conducting an interview with **Earl Cagle, Jr.** of **Point 39 Productions** fame in the next few weeks. The interview will be printed in a future issue of **Extreme Rocketry** magazine. Richard reports that **THOR's Hammer** was once again a runner-up for the NAR's LAC newsletter award. Once again, one of the biggest reasons that we did not win was the **LACK OF PARICIPATION OF OTHER CLUB MEMBERS IN CONTRIBUTING MATERIALS TO THIS NEWSLETTER.**

Arley Davis shows some of his latest creations.

Doug Buhrman presents his own footage of the **Delta III's** flight on Monday.

Meeting adjourned at 21:00. ✨



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 one low power launch (1/4A – F class) and one high power launch (1/4A – N class) each month. Low power launches are held at the soccer fields south of 66th and Harrison in La Vista, NE. 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**.

THOR's Hammer...

THOR's Hammer is the official newsletter of THOR. On average, it is published on a bimonthly 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
8210 S. Cherrywood Drive
Lincoln, NE 68510

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