



T.H.O.R.

The Heartland Organization of Rocketry



October 2003

---FREE---

Volume 10 Number 6



More LDRS coverage! From top (clockwise): 52 foot tall *Stumpy*, 316-D11-powered *Maxie D*, twin M1419 powered *Our Stinkin' Rocket*, and (center) members of *Thor's Hammer*. (Burney)

Fall Meeting Schedule

Tuesday October 7th and Tuesday November 4th. Each meeting will start at 7:00 PM at the La Vista Community Center.

October/November 2003 Calendar

October

Event: Low Power Launch.

When: Sunday the 5th, Noon to ?

Where: La Vista Sports Complex.

Fee: Free.

Description: Low power sport flying.

For More Information:

Event: High Power Launch.

When: Saturday the 18th, 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.

November

Event: Low Power Launch.

When: Sunday the 2nd, Noon to ?

Where: La Vista Sports Complex.

Fee: Free.

Description: Low power sport flying.

For More Information:

Event: High Power Launch.

When: Saturday the 15th, 9:00 AM to 5:00 PM.

Where: Carroll, IA.

Ceiling: Window to 15,000 MSL every day of the week, and a waiver to 15,000 MSL all day Sunday and Monday.

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.

THOR Special Flights at LDRS XXII – Part 2

Article and pictures by Richard Burney

As promised, here is the continuation of the LDRS XXII coverage.

Sunday July 20th and Monday the 21st proved to be a spectacular showcase of THOR's involvement with LDRS XXII. *Stumpy*, standing over 52 feet tall, set the record for the tallest model/high power rocket ever flown. The flying Porta Potty, *Our Skinkin' Rocket* was one of the most unique rockets flown. Though grossly underpowered, Bruce Lee and Larry Drake's *Maxie D* was a valiant effort to beat Larry's old cluster record. Monday saw Richard Burney, Tony Nicklin, Rick Bosworth, George Wimmer, and Andrew Wimmer compete as *Thor's Hammer* as part of First TV's *From the Ground Up* contest.

All of the above projects/events will very likely appear on one of the three episodes of **Rocket Challenge** which will air on the Discovery Channel during the month of November. *Our Stinkin' Rocket* will be featured on the first show which will air on Sunday November 9th. Thus it turns out that LDRS XXII was not only a great opportunity for THOR members to fly "Large and Dangerous Rocket Ships", but to also help promote our hobby thanks to the people of First TV and the Discovery Channel.

Stumpy: World's Tallest Model Rocket!



After months of planning, construction of *Stumpy* began in May. Here is Bruce Lee with the fin canister at our June meeting. This rocket's going to be over 52 feet tall when it's finished!



Greg Rothman and Kevin Trojanowski show some of the completed parts at the July meeting. The structure Kevin is holding was used in several sections to help give *Stumpy* extra rigidity.



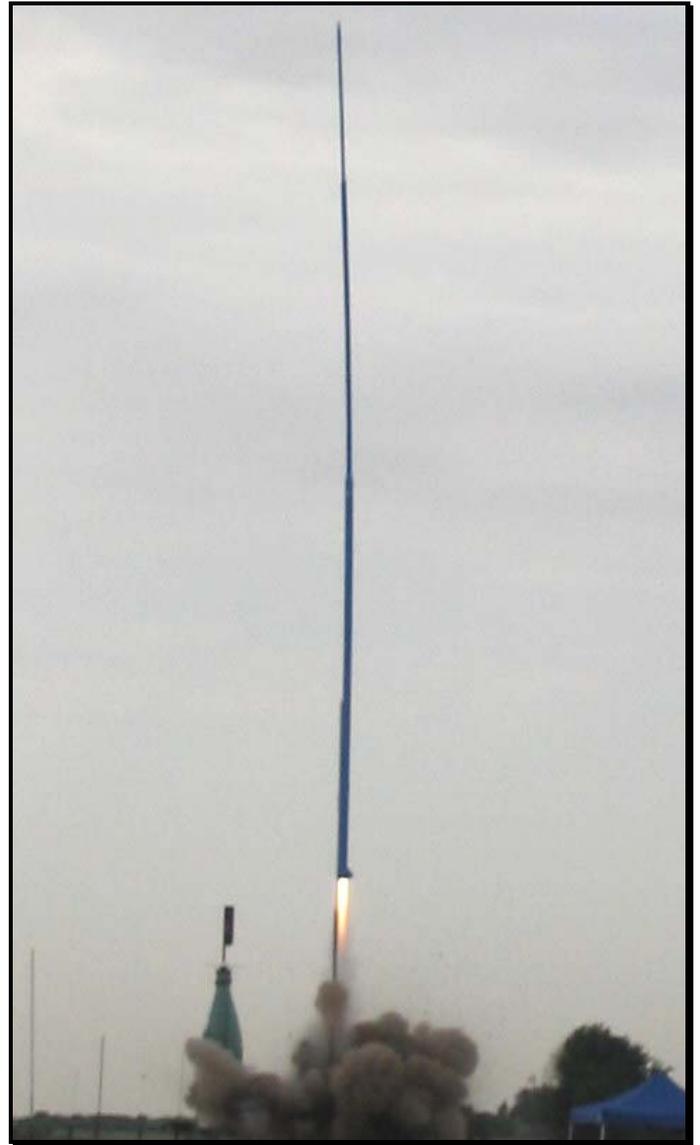
Kevin Trojanowski and Denis Gilbert go over the major parts of *Stumpy* the day before the launch.



Sunday July 20th, *Stumpy's* almost ready for flight!



Stumpy assembled on its rail launcher. With the help of ropes and pulleys, *Stumpy* was carefully raised into position.



Liftoff! *Stumpy* was flown on a cluster of 3 AeroTech J260 hybrids. *Stumpy* reached an altitude of about 787 feet before it buckled.



Some of the major members of team *Stumpy*. From left to right: Frank Uroda of PML (PML, Missile Works, and Rocketman Enterprises were the sponsors), Greg Rothman, Bruce Lee, Kevin and Devin Rich, and Deb and Kevin Trojanowski.

Our Stinkin' Rocket



Brent McNeely of *Extreme Rocketry* magazine interviews Ky Michaelson in regards to *Our Stinkin' Rocket*. Besides Ky, other THOR members involved with the project included Bruce Lee, Tony Cochran, and Jodi Michaelson.



Originally it was planned to use a full sized dummy which would deploy with parachutes, but in the end this toy became the unceremonious passenger! Note the Charmin brand toilet paper!



Flight sequence of *Our Stinkin' Rocket*. At liftoff, the twin parachutes came out prematurely causing the rocket to not even break 100 feet even with two AeroTech M1419's. Landing was hard, but *Our Stinkin' Rocket* is repairable and will fly again!

Maxie D



Larry Drake displays *Maxie D* at Nebraska Heat VI. At this time, *Maxie* was planned for a cluster of 303 D11's.



Bruce Lee works on sanding the body tubes just a few weeks out before LDRS XXII.



Bruce Lee is interviewed by the First TV camera crew while Kevin Rich and Kevin Trojanowski keep *Maxie* held up in the wind. Matt Jones and Larry Drake are retrieving launch supplies for the flight.



When all was said and done, *Maxie D* was loaded up with 316 Estes D11's. That's a lot of motors!



Flight sequence of *Maxie D*. Unlike Larry's *Mini Max*, the flashpan ignition only lit about 140 of the 316 motors resulting in a grossly underpowered flight. The timer separated the main sections just before it hit the ground. Though the rocket was pretty banged up, *Maxie D* will probably be rebuilt.

Thor's Hammer and First TV's From the Ground Up Contest



THOR's representation in First TV's *From the Ground Up* contest – *Thor's Hammer*! From left to right: Rick Bosworth, Tony Nicklin, George Wimmer, Andrew Wimmer, and Richard Burney (me!).



Tony presents the *Thor's Hammer* rocket to the RSO for inspection. When each team was finished building their rocket, the timer was stopped and the rocket was inspected.



Six of the other seven competing rockets. All teams were supplied with PML parts and had to make their rockets 8 feet in length.



Rick, Andrew, Tony, and George prep the rocket for flight. Like all the other rockets flown for the contest, the motor used was the newly certified Cesaroni Pro54 K530 Smoky Sam motor.



Liftoff! Though our team came in at about fourth place, it was a very fun experience... not to mention that we got to keep the rocket and motor casing!

NASA's Space Place

<http://spaceplace.jpl.nasa.gov/index.shtml>

Monster Trucks on Mars

by Patrick L. Barry and Dr. Tony Phillips

We all know what Mars rovers look like now: Robotic platforms, bristling with scientific instruments, trundling along on small metallic wheels. Planetary rovers of the future, however, might look a little different—like miniature monster trucks!

Enormous, inflatable tires can easily roll right over the rocks and rugged terrain of alien planets, just as they bound over old cars like as many speed bumps.

That's the idea behind a novel concept for robotic planetary rovers known as the "big wheels inflatable rover." Unlike rovers similar to the Sojourner robot that explored the surface of Mars in 1997 that depend on instructions sent from Earth or complex programmed intelligence to steer through rough terrain, this rover has three beach ball-like tires roughly five feet across that make it a true off-road vehicle.

"We sent this rover out to Death Valley, to a place called Mars Hill that has a general geological formation like Mars, and nothing could stop it," says Jack Jones, the mastermind of the inflatable rover concept at JPL. "It just kept going and going and going."

Lots of current research is devoted to developing advanced robotic intelligence that allows rovers to detect rocks in their path and maneuver around them. The alternative to such on-the-spot intelligence is tedium: Ground controllers on Earth working out the maneuvers by hand and waiting an hour or more for the instructions to travel to the distant planet.

A "big wheels" rover would need such computer intelligence to avoid very large boulders, but Jones asks, "Why worry about every little rock, pebble, and crack when you can just roll right over most of them?"

Jones imagines a scenario where multiple inflatable-wheel rovers could be sent out to explore the Martian terrain—easily and quickly traversing the rugged terrain. Samples gathered by the rovers could be returned to a central, stationary laboratory module for detailed analysis.

"The Martian surface is really very, very rough with a lot of rocks, and to be banging this laboratory equipment up and down over all of these rocks aboard the rovers doesn't make much sense," Jones says. "I suspect it might be better to leave it in a central location."

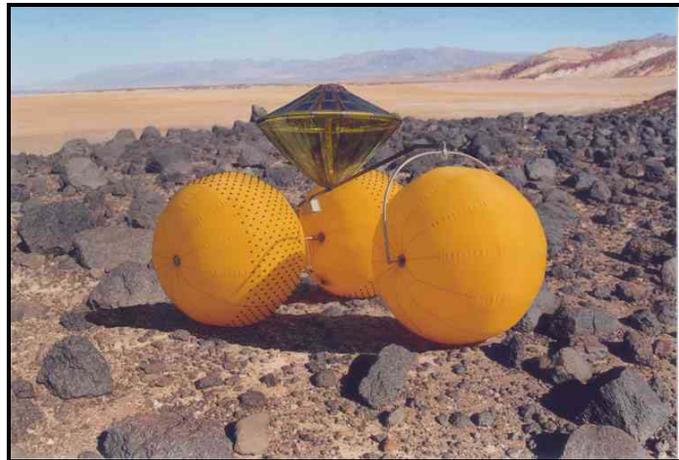
At the moment it's all very speculative; NASA currently has no definite plans to send inflatable rovers to Mars. But who knows, one day monster truck-like vehicles could be zipping over Mars' rough, red surface.

Kids can baffle their friends with a robot puzzle (including a "Big Wheels" rover) they make themselves

at http://spaceplace.nasa.gov/robots/robot_puzzle.htm. For adults, find out more about NASA's inflatable rover program at

http://www.jpl.nasa.gov/adv_tech/rovers/summary.htm.

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



The "Big Wheels" inflatable rover doesn't mind a few boulder-sized rocks, no matter what planet they're on!

Other Stuff

Every once in a while, Larry Vetter has sent me pictures of some of the rockets he and his family have built and flown. Earlier this year, Larry sent me this picture of his son Jeramy and this very nicely finished Estes Executioner. The motor used in this late fall 2002 flight was a 24mm AeroTech motor. If anyone has any pictures or articles they want printed in the newsletter, please send them my way!



CLUB OFFICERS

PRESIDENT - Bruce Lee

Phone Number: (402) 691-8420

E-mail: bruce.lee@tripoli.org

VICE PRESIDENT - Greg Rothman

Phone Number: (402) 891-5706

E-mail: garothman@msn.com

TREASURER - Larry Drake

Phone Number: (402) 895-1583

E-mail: thor_rocketry@yahoo.com

SECRETARY - Richard Burney

Phone Number: (402) 553-5816

E-mail: rcburney@cox.net

TRIPOLI NEBRASKA PREFECT - Kevin Trojanowski

Phone Number: (402) 292-4101

E-mail: troj@cox.net

NAR SECTION #562 LEADER - Bruce Lee

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.**