



September/October 2001

VOLUME 8 NUMBER 5

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

Monthly Meeting Schedule for Fall:
Tuesday September 4th, Tuesday
October 2nd, and Tuesday November
6th. As usual, each meeting will start at
7:00 PM at the LaVista Community
Center.

September

Event: Low Power Launch.

When: Sunday the 9th, Noon to ?

Where: La Vista Sports Complex.

Fee: Free.

Description: Egg loft duration contest. This may also be the date for John Carroll's Field of Wing's event.

For More Information: To be determined.

Event: High Power Launch.

When: Saturday the 22nd, 9:00 AM to 5:00 PM.

Where: Pickrell, NE.

Ceiling: TBA.

Fee: \$5.

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

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

Event: Balls 11.

When: Saturday the 29th through Sunday the 30th.

Where: Blackrock, NV.

Description: The big national experimental high power rocket launch of the year!

For More Information: Check out the launch calendar at www.tripoli.org.

October

Event: Low Power Launch.

When: Sunday the 14th, Noon to ?

Where: La Vista Sports Complex.

Fee: Free.

Description: Low power sport flying.

For More Information:

Event: High Power Launch.

When: Saturday the 27th, 9:00 AM to 5:00 PM.

Where: Pickrell, NE.

Ceiling: TBA.

Fee: \$5.

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

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

TRIPOLI NEBRASKA WEB PAGE

www.tripoli.org/tra_ne/nebraska.htm

THOR WEB PAGE

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

Rocketman Central

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

Shawn and Graham's Macross World... Unofficially serving the Macross Fan since December 1st, 1999!

Dedicated to all Pioneers...

Back in June, me and my *Macross Plus* rocket were the featured items on the Macross World website (www.macrossworld.com). I know that Shawn Klueck, webmaster of Macross World, had been impressed with my Macross themed rockets and has posted my pictures (http://216.12.215.2/macross/mwat/richard_burney/_richard_burney.htm) as I have sent them, but this was a complete surprise to see my projects being promoted on the main menu page. Shawn also has made available for downloading the footage that Don Rice took of *Macross Plus*' maiden flight at Fire on the Farm III. This also turned out to be a great opportunity to share my rocketry hobby with all the other Macross diehards that hangout on the Macross World forum. Thanks, Shawn!©



Shawn made this nice little collage of pictures that I sent him to help plug the *Macross Plus* rocket.

Shawn, along with Graham Parkes (who works and resides in Hong Kong), has made Macross World one of the most premiere websites dedicated to the classic Japanese animated series *Super Dimension Fortress Macross* and its numerous sequels. The site, along with its associated forum/message board, have become so popular, that it has attracted the attention of those involved with the Macross license both in Japan and the US. Shawn and a few other Macross fansite webmasters (Jerry Tsai and Kevin Lam) even recently threw together an unofficial Macross convention on September 1st in Los Angeles. If you get the chance, check out Macross World!

Estes "E" Motors Return...

Most everybody here in THOR probably remembers the E15 black powder motors that Estes had produced back in the mid 1990's. Since a lot of people have been flying Aerotech 24mm E and F motors in Estes D powered kits for years, Estes tried to make a stab into the midpower market with an E motor of its

own. Unfortunately, the Estes E15's had a very high failure rate possibly due to the fact that Estes was making these motors the same way as their smaller black powder motors (rolled paper tubing and clay nozzles). After a year or so of manufacture, production of the E15's ceased.



The brand new Estes E9 motor.

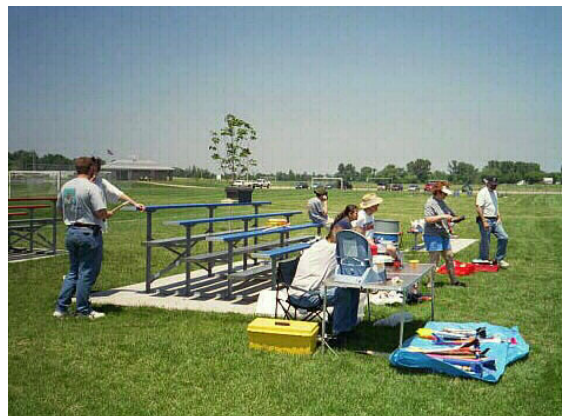
Now over 6 years later, Estes is introducing a new black powder E motor: the E9 which comes in 4, 6, and 8 second delays. The E9 is 24mm in diameter (like many other D and E motors), 3.75 inches long (in comparison, the E15 was 3.5 inches long), and has a total impulse of 28.62 N/S (the smaller E15 was 32 N/S).

The E9 is to hit store shelves in September. Whether the E9 will be more reliable than the E15 remains to be seen.

Spot Landing and Sport Launch 6/10/01...

The first contest for the year was the Spot Landing contest at the La Vista Sports Complex. All together there were 8 participants: Richard Burney, Arley Davis, Bruce Lee, Denis Gilbert, Kevin Rich, Devin Rich, Mike Slater, and Nathan Slater. Each contestant would fly a single flight to see who could land their rocket closest to a premarked target. I ended up in first place by using an Estes Skywinder. Upon landing, I was 24'2" from the target. Devin Rich ended up 30'3" away for second place.

After the contest, was some additional sport flying. Below are some pictures I took of those flights.



A beautiful day of sun and rocket flying!



Ooops! A weird cato resulted in the whole front end of Arley's Estes RTF rocket to melt!

"A"/BT-50 Streamer Duration and Sport Launch 7/8/01...

The second contest for the year was the Streamer Duration contest. The day was quite humid, but a heavy cloud cover helped keep things from getting too miserable. Below are the contestants and their recorded flight times:

Streamer Duration 7/8/01				
Contestant	Flight 1	Flight 2	Flight 3	Avg.
Arley Davis	39.91	40.87	36.05	38.94
Bruce Lee	15.82	16.34	14.43	15.53
Kevin Rich	21.63	DQ	DQ	7.21
Greg Rothman	14.21	15.56	11.00	13.59
Rich Burney	22.71	37.58	31.88	30.72
Scott Chaffin	37.80	49.73	57.34	48.29
Dennis Gilbert	14.44	11.51	DQ	8.65
Mike Slater	8.26	DQ	DQ	2.75

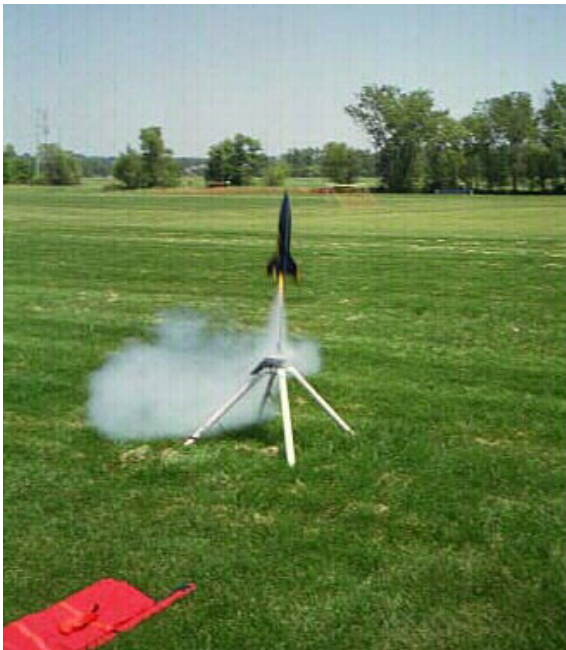
Scott Chaffin's very aerodynamic design was able to get much altitude on an A3-4T and hang times which improved on each flight. Arley sustained a very consistent set of times and ended up in second.



Kevin and Vicki Rich prep Kevin's Big Daddy.



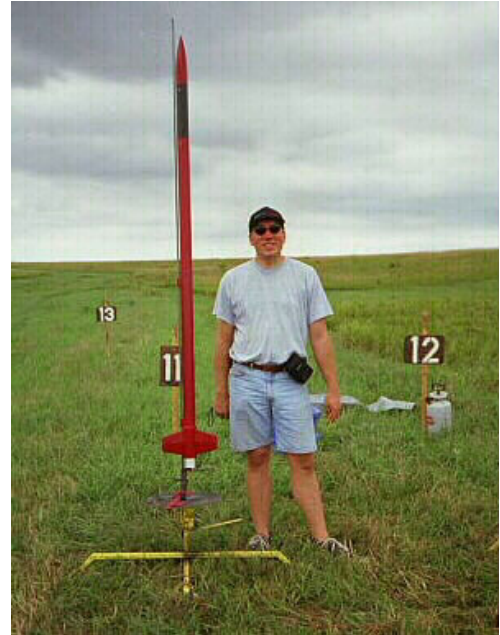
Richard Burney with his Big Bertha with a big roll of crepe paper taped to the tail. Why? Somebody in the May/June issue of *Sport Rocketry* magazine (*Recipe for the St. Louis Arch* by Mort Binstock) wrote about doing this, so I gave it a shot.



Liftoff!!!



On a C6-3, the Big Bertha sloooowly ascended to an altitude of only about 40 feet. About 50 feet of crepe paper came unraveled before it broke.



Greg Rothman with his Level 1 Certification rocket.



Mark Scott recovers my Big Bertha and streamer. I forgot to get a picture of the "arch" because the rocket nearly crashed into the ground!



Liftoff on an H123.

Pickrell High Power Launch 7/28/01...

The fifth high power launch of the year happened at Pickrell on July 28th. After heavy overnight rains, the clouds started breaking up in the morning and the conditions were partly sunny and in the lower 80's by the afternoon with light winds. A good day for flying! Most everything went well, but because of a motor chuff, Bruce's Ground Zero Air-Oh rocket flat spinned and landed on Dan Cramer's car cracking the windshield! Ouch!☹



A successful flight! Welcome to high power!



Richard Burney with his *Final Fantasy VII* rocket.



***Final Fantasy VII* heads up to over 4,200 feet via a J350. A broken shock cord resulted in a hard landing for the booster section.**

1/4A Parachute Contest and Sport Launch 8/12/01...

The third contest of the year was the 1/4A Parachute Duration contest. Like the Streamer contest a month before, it was a cloudy day but less humid. Also, there was once again a total of 8 contestants. Below are the contestants and their times:

Parachute Duration 8/12/01				
Contestant	Flight 1	Flight 2	Flight 3	Avg.
Arley Davis	29.00	14.75	21.50	21.75
Bruce Lee	11.50	8.00	7.00	8.83
K. Trojanowski	DQ	20.00	20.00	13.33
Greg Rothman	8.00	86.00	DQ	31.33

Rich Burney	DQ	DQ	DQ	0.00
Scott Chaffin	DQ	59.00	40.00	33.00
Jeff Moon	7.00	DQ	DQ	2.33
Larry Drake	5.00	DQ	4.50	3.17

Since most everybody used BT-5 body tubes, getting the parachutes to properly deploy was a bit of a problem. In a few other cases, some people used BT-20 or -50 sized tube rockets that were nearly too much for the small 1/4A3 motor to handle. After a DQ on the first flight, Scott Chaffin was able to pull out a victory. Greg Rothman had the longest individual flight, but the rocket was lost in the nearby corn field and his backup rocket's flight DQ'ed. I ended up DQ'ing each flight due to problems with the shock cord pulling out.

Nebraska Heat IV...

Sorry to say, I haven't had much time to go through all the data from Nebraska Heat IV. If all goes well, I should have the full blown Nebraska Heat IV review along with a ton of pictures next issue.

Private Rocket Launch is 'Suicidal'

By BBC News Online science editor Dr. David Whitehouse



Steve Bennett: Thunderbirds are go?

(Editor's note: my subtitle for this article is "Rocket Nut or just plain Nuts?" 😊)

British rocket experts are denouncing as suicidal the latest plans of controversial rocket engineer Steve Bennett. If he goes ahead with them, he could well be killed, and the burgeoning British rocketry effort will be permanently stuck on the launch pad, they warn. Their concerns were voiced as Bennett, from Manchester, prepared to unveil his latest project, which he describes as the world's first private spacecraft, at an exhibition in London. He intends to become the first private astronaut to go into space with his own rocket. Within two years, he hopes to take two passengers into space with him.

Critics are already calling it the "bye, bye, Bennett mission".

To boldly go...

Steve Bennett's latest development is the Nova capsule. Alongside it at the exhibition will be a larger capsule called Thunderbird, which Bennett hopes will take him, and the two passengers, into space. But other rocket experts are worried, not least because the Thunderbird capsule is actually a converted cement mixer, containing sheets of hardboard and a few computer joysticks. "This is not like launching an off-the-shelf rocket to a few tens of thousands of feet," said British rocket expert Richard Osborne. "Getting to the edge of space is a very different matter. You have to have expertise, experience, tonnes of money and then test, test, test." BBC News Online put these criticisms to Steve Bennett. He responded: "We are not planning any tests such as wind tunnel or vibration tests before we launch it. That is what the test flight is for."

'Ambitious project' ...

He confirmed that it was his intention for the Nova capsule to be launched on a 3,050-metre (10,000-ft) shake-down mission by a cluster of commercially available rocket motors all strapped together. Richard Osborne told BBC News Online that the rockets Mr Bennett was using each had a burn-time of six seconds, and if they all fired together would subject him and his capsule to high G-forces that they might not be able to withstand. Even Steve Bennett's own team are surprised. Gurbir Singh, from Starchaser Industries, the rocketeer's own company, told BBC News Online that the mission was "somewhat ambitious". Pete Davy, of Pete's Rockets, where many British rocket enthusiasts get their rockets, was more blunt: "If he gets into that capsule and lights the rockets it will be, bye, bye, Bennett." But, despite these warnings, the Bennett launch schedule goes ahead. "I will be the first private astronaut," he said.

Commit to launch...

But has Bennett got the "right stuff" to go into space? He is an accomplished parachutist but it will take more than that. In particular, training in a centrifuge will be needed so that he, and any passengers, can learn how to cope with the considerable G-forces, higher than those experienced on NASA's space shuttle. "I've only been in a centrifuge briefly when I took a ride in the one at NASA's Johnson Space Center," Steve Bennett said. "I'll need more time. I'll probably have to go to Russia for that." But NASA denies he has been anywhere near their centrifuge, which is owned by the US Army and not at the Johnson Space Center anyway, and Singh said that no centrifuge training had taken place. In the media, Steve Bennett has been called "Britain's answer to NASA". Indeed, on his website, Bennett cites

NASA as one of his official sponsors. NASA denies this and when this was pointed out, Bennett said: "Er, that might be an exaggeration, I'll look into that." Within hours of this article appearing NASA was removed from the list of official sponsors on Starchasers website. According to Starchaser Industries, two, as yet unnamed, passengers have signed up to fly with Bennett for a fee that the company's website says is £500,000. In 1999, the company was offering a seat for £62,500. If for any reason the mission does not go ahead, Bennett told us that their money is secure. "If they don't fly they will get their money back."



Bennett's rockets: Some success, some failure.

X-Prize...

Starchaser Industries says that the Thunderbird will be launched using a "single, dependable, liquid-propellant engine". In the past, armed forces and space agencies have sweated over such engines, spending many years and enormous sums on them. But according to Singh, the sweating at Starchaser Industries has yet to begin, despite the launch date being less than 100 weeks away. He said that little work had been done on the liquid-fuelled rocket. "This is an aspiration. There are a couple of students looking at it," he said. Bennett however, says something different: "I have the first prototype engine on the desk in front of me. We plan to test it on a military site later this year." Rocket experts are somewhat puzzled by this, as Bennett has been banned, and caused all other rocketeers to be banned from military launch ranges, after he set fire to one when a rocket failed on launch a few years ago. All agree that if Bennett is to get into space, and win the coveted \$10 million X-Prize for the first private individual or company to do so, he will have to raise his game.

Amateur record...

Bennett's crowning achievement so far is "launching a rocket to 20,000 ft (6096 m) that we believe is capable of going to 120,000 ft (36576 m). In fact, I lead the field," he told BBC News Online.

But Pete Davy is unimpressed: "For £30 you can put together a rocket that will reach 5,000 ft (1524 m). Sending a rocket to 20,000 ft (6096 m) can be done for less than £1,000." The current British amateur rocket altitude record is 34,579 ft (10,540 m). John Bonsor, of Starr, a Scottish rocketry group is puzzled. "I don't understand what is happening. He has been using cheap rockets, has a mixed bag of success and disaster and has achieved less than many others have working from their garage. It is ridiculous to claim that he leads the field, except in the number of crashes." "I've come from nothing to being the leading contender in the X-Prize," counters Bennett. "Only if he reinvents the laws of physics," replies Bonsor. "He has absolutely no chance of the X-Prize. Please don't launch." Bennett's reply? "Just watch me. 'Seeing is believing', I say to my critics."

THOR Meeting Minutes: July/August

Compiled by Richard Burney, Secretary

THOR Meeting Minutes 7/3/01

Attendance: Larry Drake, Richard Burney, Kathy McGinnis, Jon Damme, Greg Rothman, Kevin Trojanowski, Denis Gilbert, Kevin Rich, Devin Rich, Tyson Christiansen, Arley Davis, Jacob Davis, and Candy Davis.

Meeting starts at 19:30.

Pool/Fourth of July Party tomorrow at Bruce Lee's house (July 4th).

Streamer duration contest on Sunday (July 8th).

Richard Burney passes around pictures he took at Nebraska Heat IV last weekend.

Arley Davis shows the new Estes "catalog" (it's more of a flyer if anything). Arley recently got a classic Estes Excaliber kit. Arley shows the progress he has made on his NCR Bomarc (the original NCR release, not the later Estes/NCR release).

General discussions are made about Nebraska Heat and other 2001 events.

\$200 in profits were made from Nebraska Heat IV.

Meeting adjourned at 21:25.

THOR Meeting Minutes 8/7/01

Attendance: Bruce Lee, Richard Burney, Candy Davis, Jacob Davis, Arley Davis, Vicki Rich, Devin Rich, Kevin Rich, Jeff Moon, Doug Holverson, Kevin Trojanowski, Jon Damme, Greg Rothman, Eric Nanfито, Ken Nanfито,

Larry Drake, Dave Pares, Alex Pares, and Allyson Pares.

Meeting starts at 19:15.

LDRS XXI will be held in Amarillo, TX.

Bruce talks about LDRS XX, which was at the Lucerne Dry Lake in California. A few of the notable launches (or launch attempts) included a large scale replica of the Soviet N-1 moon rocket (it used a large cluster of high and mid power motors; the flight ended in disaster) and an Ariane IV, which had booster pods that were designed to recover on their own (due to difficulties with the electronics, the flight was scrubbed).

A.I.R.Fest will be this Labor Day weekend. High power flying from Friday August 31st to Sunday September 2nd. Experimental day on Monday the 3rd.

Bruce talks about some of the activities at the Balls 11 launch at the Blackrock Dessert in Nevada on the weekend of September 29th. Bruce will be helping out with someone's R nitrous motor.

Bruce is presented an award (Kung "oops" Master of Space) for cracking Dan Cramer's windshield at the Pickrell launch on July 28th.

Larry shows his new digital camera he got for just \$80! Available through Comp USA.

Jon Damme passes around his copy of *Failure is not an Option* by Gene Kranz.

More big and small rail buttons are available through Kevin Trojanowski.

Doug shows some of his rocket designs and kits.

Estes is apparently getting ready to release a new black powder E motor on the market (*Editor's note: according to Estes' website, the new E9 motors should be available in September*).

Candy is in the process of repairing *Witch Candy* which is an upscale of the old Estes Zoom Broom kit.

Arley shows the repair job he has done to his PML Pterodactyl after its mishap at Nebraska Heat IV. Also shows a special cutting attachment that he has used on his Dremel tool.

Dave Pares has started construction of his Level 3 project which in turn is a scaled down version of his manned *Bluebird* space attempt vehicle. Aluminum construction throughout for both the Level 3 project and the manned version.

Meeting adjourned at 21:15.

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NAR SECTION 562 Leader

Arley Davis

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

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

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

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

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

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

T.H.O.R Membership Application

Personal information

Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

Phone Number: _____

Email Address: _____

Hobby information

How long have you been involved in Rocketry? _____

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

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

Family membership - \$36

Senior (18 and up) - \$24

Junior (under 18) - \$12

Correspondence - \$10

(people over 50 miles from Omaha)

Newsletter only - \$6

(6 issues per year)

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

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

Signature _____

Dated: _____