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# ❖ Tri City Sky Busters ❖

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Volume 1 Issue 3

NAR # 535

October 1995

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## Sky Busters Have a Busy Summer!

### Tri City Sky Busters Promote Model Rocketry at the Cleveland National Airshow

The Tri City Sky Busters, NAR Section #535 provided a static display in conjunction with the Cleveland Aeromodel Society at the Cleveland National Airshow over Labor Day Weekend.

The display had to be set up and cars removed from the area by 8:30am each day, and the show lasted until 4:30pm, at which time it had to be completely torn down and removed from Burke Lakefront Airport.

The display was manned on Saturday by Gerry Freed and Dave Falkner, and on Sunday by Mark Sadowski and Dan and Nancy Harold. We had great weather for the airshow with temps in the mid to high 70's and a clear blue sky.

The display was manned at all times and we fielded many questions about Model Rocketry from the spectators. Highlights of the show included a Stealth Fighter flyby, and performances by a CA-18 (F-18) from Royal Canadian Air Force, and a F-15C Eagle from the USAF.

In all, the Sky busters have manned static displays at three different airshows this summer, with the Cleveland show being the last and largest on the schedule.

- Dave Falkner

### Lost and Kinda' Found Rockets

There have an increasing number of rockets "Given Back" by our "Rocket Eating Trees" that we have no idea to whom they belong. We are asking ALL MEMBERS to PLEASE label their rockets with their Name and NAR/Tripoli Numbers. The current list is as follows:

- Orange Estes RAMJET found to the right of the launch line on the ground
- Red Estes ARGOSY found to the right of the launch line in a tree
- White Estes REDSTONE-JUNO D-motor found way out on the ground

Dave Falkner's Home-Made Mini Bertha was also found and returned, as he did have his Name & NAR #'s on the rocket. Please get in touch with me if one of these sounds like yours!  
- Gerry Freed (216) 476-2496



### The Bay Village Branch of the Cuyahoga County Public Library and Tri-City Sky Busters, take ROCKET INTO READING Literally!

We were asked by Pat Suchy, the Children's Librarian for the Bay Village Branch of the Cuyahoga County Public Library, to hold a Introduction To Model Rocketry class during their ROCKET INTO READING summer reading program. The 3-session class was held Saturdays August 5th, 12th, and 19th, 1995, from 9:30 am to 11:30 am each day. The class had a total of 16 students, from grade 4 and up. (12 Boys 4 Girls). The class outline was as follows:

#### INTRODUCTION TO MODEL ROCKETRY

##### DAY 1

- What is Model Rocketry, History of Modern Model Rocketry. NAR and the Model Rocketry Safety Code, Estes Video, "Final Frontier" (with William Shatner), Model Rocketry Theory and Techniques, Q and A Session.

##### DAY 2

- Video, Estes/MRC/Aerotech Demo, rocket kit selection, un-pack and inventory rocket kit and supplies, overview of instructions, friction fit kit parts, start rocket kit assembly, Q and A Session.

Please turn to Library, page 2

## Library, from pg. 1

### DAY 3

- Review, Continue and Complete Rocket Kit Assembly, Launch Safety Review, Tri-City Sky Busters Club Information, Q and A Session.

We offered as part of this class, 1 model rocketry kit, 1 A8-3 motor, all building supplies, and instruction. With the **outstanding** pricing we got from **Kevin Nolan of Countdown Hobbies** we were able to offer all of this at a cost of \$6.00 per student and we still broke even. The students were offered a choice of one of two different kits to build; the Estes E2X ALPHA III, or, the Quest Skill-Level 1 Super Pip Squeak.

All went VERY well during the three sessions, thanks to the support of the following NAR #535 Members & helpers...

- Session #1 Dave Falkner, Mark Sadowski, Ray Maskow Sr., Charlie & Gerry Freed.
- Session #2 Dave Falkner, Ray Maskow Jr. & Sr., Charlie, Candy & Gerry Freed.
- Session #3 Dave Falkner, Ray Maskow, Kathy West, Tom Campbell, Neal Bade, Charlie, Candy & Gerry Freed.

Many thanks to Pat Suchy, Children's Librarian of the Cuyahoga County Public Library Bay Village Branch and the parents of students that helped out during the three days of classes.

-Gerry Freed

## This Could be Your Last Sky Busters Newsletter!

If any of you are curious about the "big empty spaces" throughout this issue, please read the following:

Due to an apparent lack of interest from our general membership, this is the last newsletter I plan to produce. Many articles were promised, and deadlines set and gone by with no articles received. As we are all adults, I did not feel it necessary to call everyone who promised to submit something to remind them of the deadline. It was agreed that this issue should go out so everyone would receive it before the next launch.

At our last meeting, it was agreed upon that the newsletter would come out 3 times a year; without more help from the members, this will not happen.

It is now Wednesday morning before that launch, and I am putting this issue to bed. I have enjoyed working on this publication, but it is a job too large for just one or two people. I would like to thank Gerry Freed for his help with this issue, and all the past issues.

-Dave Falkner

## Tri-City Sky Busters Range Store & More

Our Range Store, is in the process of restocking. We still have on-hand some great **starter-kits** for the beginner & other **single kits**. We will continue to stock a limited number of 13mm, 18mm, 24mm and 29mm rocket motors. Tri-City Sky Busters Club T-shirts are still available. The shirts are light blue in color, with the Tri-City Sky Busters logo on the front in a dark shade of blue. A full range of sizes are available.

All items in the Club Range Store are sold at-cost with NO mark-up !!!

If you are interested in purchasing items or have special order requests, or just questions let me know.

-Larry Freed

## Tri-City Sky Busters August Launch Report

It seems that we here at NAR #535 can only have a great time launching rockets when the Northern Ohio area is in the **Extreme Weather** Category. Well, here goes.....

We had a total turn-out of 30 Rocketeers (19-SR's and 11-JR's). At the opening of our Launch Window, 10:00am/et the Temperature was 90'!!

### “A Hot Time At The Old Launch Pad Today”

The total count on motors is as follows....

13-A'S, 30-B'S, 31-C'S, 12-D'S, 9-E'S & 2-F'S. 97 Motors in all !!!!

### Outstanding Performers were...

- Dave Falkner flew his Estes “Saturn V” on an Aerotech E15-4W. A real crowd pleaser, with the two big 24” chutes on the lower section and one 18” chute on the upper section. **PRIMO-FLIGHT !!!!!**
- Jim Philips was not far behind with his custom built “HI-5”, a 3 motor cluster of 2-C6-5's and a D12-7 (all Estes motors) impressive flight!
- Ray Maskow gave us yet another picture-perfect flight on his “Toilet Tube II”, on an Estes C6-3. Ray did teach us how important it is for thrust rings to be glued in well. Thanks Ray !!!
- Steven Csollak had three text took style launches on his Estes “Firestreak” each on Estes C6-3s.
- The “Wasp” launched by Kevin Kadar was (to quote him) “PERFECTO !!”.
- Yet another 3 motor cluster, an Estes “Cobra” on 3xB6-4 was launched with no problems at all by Terry Matthews.
- Dan White had his 200th launch with his Estes “Mean Machine” on an Aerotech E15-7w, Nice one that the rocket eating trees are still

chewing on, sorry to say..

- Jim Gibbons & his Grandson had a great launch card with their Estes “Reliant” (x2), “Bailout” (x6) & 1 “Mosquito” flight.
- We had a whole herd of “Honest John's”; three Estes, two Cox and on the 2nd launch of one of the Estes with a Nike 2nd stage booster thanks to Alex Rossborough.
- We even had an UNDER-WATER Launch pulled off by Ken Witalis !!!

During the last hour or so of our launch window, we saw Larry Freed's Aerotech “Mustang” on an Aerotech E30-4, Dave Falkner's North Coast “Tempest” on an Aerotech F14-4J, Neal Bade's Aerotech “Warthog” on an Aerotech E15-4 Gerry Freed's LOC “Aura” and Aerotech “Cheetah”, both on Aerotech E15-4W's.

**BUT**, The cherry on top of Sunday, August 13, 1995 was Mark Sadowski's “FORTE” On an Aerotech F52-5T Reload. This launch caused all mouths to hang open for most of the remaining launch time! Unfortunately, even with the Help of our **EXPERT ROCKET RECOVERY TEAM**, Mark's FORTE' still looks down at us from approximately 40 feet in the air..

We Launched, We Ate, We Perspired, We Did it All !!

-Gerry Freed

## FAI flyoffs, Muncie, IN, September 23-24, 1995

While at NARAM, Jay Marsh extended an invitation to me to observe the FAI flyoffs in Muncie. These flyoffs are designed to chose the international team for the competition to be held in September of 1996 in Slovenia. Jay is a well known international competitor in scale competition. Whereas a NARAM-winning scale bird might take 200 hours to build, an international champion model probably takes around 2,000. I arrived at the launch site about 5:00 p.m.

on Saturday, just in time to observe the “F” R/C glider fly-offs. These large gliders hissed up in the air and glided for about 10 minutes under radio control. George Gassaway's entry landed in soybean patch, and after two hours, we gave up searching. Imagine the hardware he lost! After a delicious rib dinner at the Big Bone Lick (a local eatery), a bunch of us met in my room to pick the brains of Bob Bierdron, George Gassaway, and Jay Marsh on scale model technique. Bob brought a prototype of his Arieenne (all models launched were prototypes; the actual entries will be built this year) which was made exclusively from fiberglass and molded plastic parts-not one piece of Kraft tubing or balsa fins. In international competition, points are awarded for flight intricacy (clustering, staging, etc), so there are a lot of bells and whistles on these things. For example, Bierdron's Arieenne has two strap on boosters that each possess engines, fall off after burnout, and land by parachute. Staging is accomplished by R/C ignition, with each stage possessing pop-out fins that deploy when the ignited stage pulls away from its booster. In addition, the two halves of the heat shield, which would protect the payload during launch, separate with each descending on its own parachute. So, after all has been staged and deployed, there might be 7-8 parachutes, each with its own component, floating down after launch. Jay Marsh's Saturn 1B prototype used a timer activated by a roller switch on the internal launch rod to activate the staging. Jay's prototype possessed a second stage with pop-out fins and recovery of the interstage by separate chute. Any ways, Jay and Bob showed us how to make fiberglass tubes (custom diameter, much lighter and no seams) and epoxy casts of corrugation patterns using RTV molds. Mark “Bunny”Bundick, the NAR president, demonstrated vacuforming. Jay Marsh showed me a stack of files about a foot high, containing data on the 1B. These people dig up every scrap of existing information on their bird, going so far as to making road trips to take pictures and measurements of display rounds,

**Please turn to Muncie, pg. 7**

## Tri City Sky Busters September Launch Report

Sept. 10, 1995

Our regular launch was held on Sunday, September 10th, 1995. Weather started out cold and cloudy, gusty winds 10-15 mph, and a sky that threatened rain. We set up the rangehead, and launched the first rocket, Dave Falkner's Estes "Reliant" on a B6-4 with streamer recovery to test the winds aloft. Launch rods were adjusted to compensate for the winds, and the launching commenced!

This apparently was "Ram Jet" day with a total of 5 Ram Jets flown!

Some other noteworthy flights were:

- Mark Sadowski's "Super Vega" on a D12-5. This rocket turns in consistently good flights. Mark also flew his homebuilt two stage MK 1 on a B6-0 / A8-5 combination (after watching Dave Falkner turn in yet another perfect two stage flight with his Mongoose on a B6-0 / B6-6 combination!) for a great flight. Mark got a little carried away on the second flight of this rocket and used a C6-0 / C6-7 combination, which put the upper stage high up in a tree. Mark also flew his Custom Rockets "Landviper" which is a 3 motor cluster model on 3 B4-2's for a good flight and recovery.
- Kenneth Witalis successfully flew and recovered his Estes "Sizzler" on a C6-5, and had many nice flights on his "Nova Payloader" with the same motor. One flight included "Captain Grasshopper" for a passenger, who, we are happy to say lived so he may fly another day.
- Terry Matthews flew a number of Aerotech kits, the most spectacular of which was his HV ARCAS on a F50-6W, for a great flight and recovery. His "Barracuda" didn't fare as well on an E15-4W. It wound up real high

in a tree! Terry also flew a homebuilt parasite glider on his Estes "SR-71" which worked fantastic. The glider was extremely well trimmed and glided for quite some time!

- Neal Bade flew his Estes "Sizzler" a number of times on B4-4's for some good flights (and recoveries). He also flew his "Neptune" a couple of times, but the last flight on a C6-5 may have been too much. The last I saw of it was treeward bound! Neal also got brave with one of his remaining Estes E15-4's and tried to fly it in his Aerotech "Warthog", but it ended up with a CATO on ignition. Luckily, this tough "Timex" rocket took the licking and will keep on flying as it suffered no damage!
- George Christ flew his newly built "Big Bertha" in it's "natural" colors. Due to the winds, he tried some low power motors, but it was successfully flown and recovered a number of times. His wife Brenda also flew her "Reliant" a number of good flights as well.
- Ray Maskow launched his "Garcia y Vega" cigar tube rocket on it's maiden flight for a perfect flight and a good tumble recovery. His other homebuilt "Clod Buster" also turned in a good C motor flight. Ray continually amazes us with his homebrew creations!
- Jon Hudak flew his "Klingon Battle Cruiser" for a nice flight on a B6-4. He unfortunately lost his "Astrocam" on it's maiden flight to a tree. An extensive search was conducted by Jon, but no luck.
- Gerry Freed flew his Aerotech "Cheetah" a number of times on an Estes D12-5 motor for some good flights and recoveries. He also flew his Vaughn Brothers "Blobbo" on a C6-5. He unfortunately lost his MRC "Flare Patriot" and his home built "TP Special" to the trees.
- Kevin Kadar turned in a couple of a good flights with his Estes "V-2", or as Kevin put it "Perfecto"! His "Orbital Transport" also flew very

well. He tried a Quest "HL-20", but it didn't glide very well.

- Patrick Frazer flew an Estes "Delta Wedge" on a C6-5 which had an interesting corkscrew flight into the wind. He also flew a couple of real nice homebuilt models, "The Red One" and the "Slognut" aka "The Flying Sausage" on C6-5's for some nice flights.
- Dave Falkner flew his Quest "Space Clipper" on some MRC C6-3 Trackker motors. I found the delay to be more like 5-6 seconds, which caused some very low parachute deployments, but no damage to the rocket. His "Mongoose" turned in two good flights and recoveries. The booster section is getting a bit beat up, but should last a while longer. Dave tried to fly a balsa glider on his "Big Bertha", but it crashed out in the field. His "Reliant" and "Ram Jet" wound up in the trees, but Larry Freed recovered the Ram Jet. Dave also flew Gerry's favorite "The Spike" 4 mini motor cluster on 4 A3-4T's for a great flight. Tom Campbell then borrowed it for a Mad Scientist experiment which it survived.

All in all, it wound up being a great day of flying despite the winds. The sun came out in the afternoon and the sky cleared up making it a very successful launch!

In total, we flew:

1-1/2 A, 13-A's, 38-B's 30-C's, 9-D's, 2-E's, and 1-F, for a total of 94 reported flights.

If none of your flights were mentioned in this report, then you did not turn in a flight log sheet before departing the field. These sheets are provided at the time you pay your launch fee.

Special thanks go to Deby Falkner for collecting the launch fees and checking the flier's NAR / Tripoli credentials. If you haven't joined one of these organizations, please do so soon as it is necessary to maintain launch and voting privileges within our section.

Dave Falkner

## TRI-CITY SKY BUSTERS

### NAR #535

### 1995 LAUNCH WINDOWS

*All Launch dates will be subject to the NAR MODEL ROCKETRY SAFETY CODE*

(i.e. Unites States Model Rocketry Sporting Code.)

The following is the 1995-1996 Launch Window Schedule.

**Standard Launch Dates will be the second Sunday of each month with a weather re-schedule date of the third Sunday of each MONTH as needed, from approx. 10:00am/et to 5:00pm/et (15:00-to-22:00gmt).**

1995		1996	
January 8, 1995	(See Launch Report)	January 14, 1996	
February 12, 1995	*Launch Scrubbed*	February 9, 1996	
February 19, 1995	*Launch Scrubbed*	March 9, 1996	
March 12, 1995	(See Launch Report)	April 13, 1996	
April 9, 1995	*Launch Scrubbed*	May 11, 1996	
April 23, 1995	Launch Scrubbed*	June 8, 1996	
May 7, 1995	(See Launch Report)	July 13, 1996	
June 11, 1995	(See Launch Report)	August 10, 1996	
July 9, 1995	*Launch Scrubbed*	September 14, 1996	
July 16, 1995	*Launch Scrubbed*	October 12, 1996	
July 30, 1995	*Launch Scrubbed*	November 9, 1996	
August 13, 1995	(See Launch Report)	December 14, 1996	
September 10, 1995	(See Launch Report)		
October 8, 1995			
November 12, 1995			
December 10, 1995			

An "All-Day Range Fee" of \$1.00 per Person launching will be charged, with a max. "Family-Fee" of \$2.00. This fee is in place to insure that ALL Range Equipment and Supplies are maintained with the NAR Safety Code in mind. **ALL Persons Launching MUST present their NAR Card (if your number is not already on file with us), as well as fill-out and hand-in a LAUNCH REPORT flight log sheet before departing the field.** These sheets are provided at the time you pay your launch fee. The LAUNCH REPORT flight log sheets need your NAME, NAR/Tripoli numbers and LAUNCH DATE, as well as your LAUNCH / FLIGHT INFORMATION. **If you haven't yet joined either the NAR or Tripoli organizations, please do so ASAP,** as it is necessary to maintain launch and voting privledges within our section. **Non NAR / Tripoli members will be allowed a maximum of two (2) "Courtesy Launches". After the two launches, proof of having sent in your membership application (photocopy of application) will be required until you receive your membership card in order to continue launching with the club.**

## Important Notice!

**Our next launch will be held October 8th at our normal launch location, in Richfield, OH at Mr. Davis' field.**

## NARAM-37, the 37th annual meet of the National Association of Rocketry.

Since my re-introduction to model rocketry in 1992, I have focused on building scale model rockets. When I saw the notice concerning NARAM-37 on CompuServe, I decided to take the plunge and enter one of my models in the scale portion of the competition. There are several different types of scale competition at NAR-sanctioned meets. For this NARAM, it was "giant scale"; simply put, the model had to possess a tube be at least 4" in diameter, or be over 1 meter long. Judging would follow the "sport scale" rules, which are much less involved than the "super scale" competition, which is rarely held. In "super scale", the judging is much more involved, and since the judges are usually fliers, no one wants to waste time measuring when they could be flying.

Fortunately, I had both an idea for an entry, as well as the body tube to do it. I have always thought the Little Joe II was a sexy rocket, and I just happened to have a section of 5.5" Cluster R body tube down in the basement. For those who are not familiar with the Little Joe (LJ from now on), it was as solid fueled rocket designed to evaluate the launch escape system (LES) of the Apollo capsule. Anyone who has seen a picture of a manned Saturn 1B or Saturn V launch has noticed the tower at the top of the vehicle. This tower contained a solid fuel rocket which, in the event of an emergency on the pad or during the initial launch, was designed to fire and lift the capsule off the stack and carry it a safe distance away. Once this was achieved, the parachutes in the capsule would deploy and the crew would be recovered. The LJ was designed to boost capsule to speeds and altitudes which would simulate the initial phase of the launch. At that point, the LES would be ignited and carry the capsule away. The particular "round" of the LJ that I built was the last of that vehicle which was launched. This vehicle was unique in that it carried an actual Block I Apollo capsule, which later gained notoriety in

being the type of capsule in which Ed White, Guss Grissom, and Roger Chaffee, lost their life in a pad fire. The Block II capsule was then used for all subsequent missions. The LJ was finished a week before the meet, and had to be in Geneseo on Monday for entry into the competition. Since I could only attend for the last two days, I mailed the rocket to the meet director, which proved to be the most nerve-racking part of the competition. Fortunately, it arrived in one piece.

Enough about me; on to NARAM! NARAM 37 was held in Geneseo, New York in the last week of July. The facilities were great! People stayed at the dorms at the university in Geneseo, and the 400-acre field was a 5 minute drive away. I arrived on Wednesday night after a 5+hour drive from Ohio, just in time for the auction, in which rare rocketry-related items were donated and auctioned, with the proceeds going to the NAR. Walking to the hall, I chanced to meet Vern Estes and his wife; **THE** man himself!

I couldn't ask for better accommodations. The actual room sucked (college dorm) but my suite mates included George Gassaway, Jay Marsh, Ed LaCroix, Gary Rosenfield, Ken Brown, Art Nestor, and others. Both George and Jay are international champions, Ed is president of Apogee Components and works with Gary, who is the president of Aerotech. Ken Brown runs QCR, and Art Nestor is well known in NAR circles. Needless to say, rocketry was spoken well into the night. On Wednesday night, while I was prepping my reloads for Thursday's flight, I watched Ed and Gary assemble Aerotech's new hybrid engine. It's impressive and perhaps I'll write more about it in a later article.

I had planned to do some "fun flying" on Thursday. My heart fell when I woke up and saw a constant drizzle. The forecast called for late morning/early afternoon clearing, so people packed up, drove to the range, and huddled under tents. Amazingly, the weatherman was right!. Around 11:30 the clouds began to break

up and the sun emerged. More importantly, NO WIND! As I mentioned previously, the range was 400+acres of ankle-high foliage. It was right next to the Geneseo Warplane museum, so occasionally launches had to be held up to allow a vintage plane, such as a C-47, to land at the strip there. The range consisted of two sets of pads, one dedicated to competition and the other for "fun flying". Each had check-in tents in which your bird was checked for flight worthiness. Once you got the OK, you took your bird out to an assigned pad, prepped it, and it was launched via a central launch system. Each launch was preceded by a description of the rocket as well as the engine it contained. The "fun fly" system consisted of three rings of pads. The majority of the pads ( 10) possessed 1/8 and 3/16 rods. Farther out (about 200 ft) were about 4"low" high power pads (1/4" rods). Finally, about 500 yards out were a couple of LARGE pads possessing «" rods for the big ones. Pad use was limited by the time needed to prep your bird. You'd prep, sign in, put the bird on the pad, and within 5 minutes it was launched.

I launched several rockets with varied success. Both flights of my D-powered and B-powered Concorde boost gliders were excellent. The D-powered glider caught a thermal and appeared to hang in the air for a long time. Unfortunately, in the second flight, the glider never pulled out of a spiral and did a number on a rental car. Launched a 2.6" (diameter) Black Brandt II on an F-reload with a 12 second delay. Unfortunately, the decent of the rocket took about 11 seconds. Also launched a 4" Gemini-Titan on two E15's. I used thermalite ignitors, and one engine ignited a split second sooner than the other. Off it went at a 30o angle, and it cored-flashbulbs for clusters from now on. Also had some successful launches- a 2.6" Sandia-Tomahawk on a G-75 Black Jack reload, and, the highlight of my rocketry life, a 5.5" Saturn 1B on an H180 reload. The thing hammered! a flight of about 1000', with a perfect recovery on two chutes. Thursday was also the Superoc competition. All day long you would see these 5-6' minimum

diameter rockets hiss up in the air. When I say hiss, I mean hiss. Many of these rockets used Apogee composite engines such as C4's, with a 3 second burn time, or a D3-with a 6 second burn. The stable rockets seemed to go forever, the unstable ones would turn loop after loop over the launch area. Six seconds is longer than you think!

Thursday night the scale entries were on display. There were some beautiful models presented and a lot of conversation ensued about building techniques, etc. Surprisingly, my LJ was in first place after the static judging. After the judging, I took the model back to the dorm and spent a relatively sleepless night before the flying part of the competition. It should be explained that the model needs to make a successful flight to win the competition. Points are deducted from the total for damage occurring during flight and recovery. Friday morning dawned clear and relatively windless. The LJ was designed to fly on a G80 with recovery using 2 chutes, one for the main body and one for the capsule. After prepping, the LJ weighed in at 1380 grams (1500 was the max) and it was placed on the pad. I built it with ¼" lugs, but I was concerned with their sturdiness, so I launched it on a 3/16" rod. All eyes (and I mean all eyes) were on the LJ during the countdown. At zero, it sprang off the pad, flew straight and true for about 100 feet, and went unstable, belly-flopping about 100 feet from the pad-unstable flight-DQ.

I felt about as low as a worm when I went out to examine the damage. I tried to rationalize the crash with the fact that I did win the static competition and really had a good time during my stay at NARAM. Actually, the LJ was in pretty good shape-the tower was in about 8 pieces, a number of thrusters were broken off, and two of the fins were crumpled, but it could have been a lot worse. Just then, Jay Marsh put his hand on my shoulder, and in his North Carolina accent, said "C'mon Tom, we've got an hour to put this thing together and fly it-you can still win". The pieces were picked up, taken to the main tent, and we went to work. Jay pieced together the

tower using SuperGlue and toothpicks as internal supports (it was made from 3/32" hollow plastic tubing). George went to luck for another engine, and I worked on the fins. The rocket was clearly bottom-heavy, so we decided to get rid of the capsule chute and put 180 grams of lead shot in the tower. After prepping and weighing in (1496g-4 grams to spare), the rocket was placed back onto the pad and launched. This time it was different; it hammered straight and true and the parachute was deployed at apogee. The decent was sort of fast, and the tower buried 2" into the ground, but did not break. I won!

My overall impression of NARAM was WOW! The field was great and flying fantastic. My only regret is that I didn't spend enough time there. It was concentrated rockets. All sorts of obscure vendors were there, selling their homemade kits and components. The level of craftsmanship on the competition and scale birds was fantastic. Everybody was very friendly and willing to share their expertise freely. TriCity Skybusters should plan a group trip to NARAM-38, which will be held in Evansville, IN. You won't regret it.

-Tom Campbell

### Muncie, from pg. 3

pestering NASA for old files, and tracking down engineers who were involved in the project.

Several different flyoffs were performed on Sunday. FAI rules are funny; for example, if you were to make a B-impulse altitude rocket for NAR competition, you would take a BT-20 and a nose cone and fins and make a minimum-diameter bird. However, there is a minimum diameter (about 3 cm) requirement for FAI entries. Thus, a B-impulse FAI bird would have a small section of BT-5 to hold the Apogee 13 mm B7, a flimsy transition up to the FAI minimum tube diameter, topped off by a vacuformed nose cone, with wafer glass fins. The body tube is too flimsy to hold a shock cord mount, so the shock cord is mounted on a fin which runs up the outside of the body to the Mylar streamer inside the tube, using a foam plug instead of wadding. The rockets have no launch lug (too much drag) and were tower-launched. The heaviest component of these rockets was the tracking powder used to spot the rocket at apogee. Some of these things were so flimsy that they shredded at launch

In the scale fly-offs, Jay Marsh's prototype 1B flew and staged perfectly. George Gassaway also had a beautiful flight with a Little Joe. Bob Bierdron wasn't so fortunately. The R/C controlled 2nd stage ignited twice on the pad while Bob was prepping for flight. He is quick!

This article is already too long, so I'll end it here. Visiting NARAM and Muncie really opened my eyes to the potential intricacies of model rocketry. Maybe next newsletter I'll describe the other competitions.

-Tom Campbell

## President's Corner

It has been quite a summer for the Tri-City Sky Busters. We had displays at three different air shows, one of which was the Cleveland National Air Show. We taught a rocketry class at the Bay Village Library and also had a display at a local hobby shop. All this and also our monthly launches! I would like to thank all of the Sky Busters who participated in these events, your efforts are very much appreciated. I also would like to encourage more of you to volunteer some of your time and energy to help out in these types of events. The Sky Busters could really use your help.

Our monthly launches are continuing to get bigger and better. I would like to thank everyone who comes to our launches, especially the families, because it is nice to see parents and their kids having fun together. All of you have been extremely kind and most encouraging of what we are trying to accomplish. It is a great feeling to meet new people, and new friends, drawn together by the hobby of model rocketry. With more people attending the launches, we have had a problem coordinating everything. We ask that you be patient and wait your turn. We hope that all of you get to fly all of the rockets that you wish, but please be respectful of your fellow rocketeers.

See you all at the next launch!

Neal Bade, President NAR 535

## September Meeting Minutes

The Tri City Sky Busters held a club meeting on Sunday, September 24 at the Brunswick Public Library. Attendance was much improved over previous meetings, and I would like to thank those of you who came out to participate in this important meeting. We are trying to improve our communication channels so that all of you will know when and where we will be holding our club meetings. At the present time we do not have a consistent meeting place. It is important that club members attend these meetings so you can let us know how we are doing and what you think can be done to improve the Sky Busters.

On the issue of the newsletter, it was agreed that our plan of trying to get out a newsletter every quarter might have been a little too ambitious. We plan on at least publishing a newsletter three times a year, maybe more if we get more articles from our members. If you would like something published in the newsletter, just get it to Dave Falkner, the editor our fine newsletter. You can bring it to a launch, mail it, or send it electronically (see addresses elsewhere in this newsletter).

There was quite a discussion about club rules, what you can and can't do at one of our launches. These rules will be codified and published at a later date. We don't want to burden anybody with a long list of rules, but there are a few important ones that we decided on, plus other rules made by the owners' of the various launch sites. As I said before, these will be finalized and will be available at all of our launches.

Also discussed at length were a club project and the possibility of a club trip to one of the other local NAR sections. If anyone has ideas about a club project, just write it up and get it to us, and we will discuss it at our next meeting. We will let everyone know when we will be making a

club trip. A calendar of upcoming events will be present at each launch, so you all will know what has been planned. If you would like to volunteer to help out at a particular event, see one of the club officers at the next launch or meeting.

Again, I would like to thank all of you who came to our last meeting.

Neal Bade

**Photo Page**

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## Name Our Future Rocket Competitions

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Our next upcoming Rocket Competition will be called ????? Here's where we need your help. We need a name for our contests.

Our last was called "SuperRoc Fest '95", but most clubs have a name that they use for all of their competitions like "Fire Balls", Snoopy, Red Baron, etc.

If you have an idea for a name, please write it here, and return this page to our President, Neal Bade.

**My Name for the Competition is:** \_\_\_\_\_

Please return to:

Neal Bade  
34 Greenfield Ct.  
Berea, OH 44107

**A winner will be drawn, and receive his choice of one (1) item from our Range Store.**

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**Tri City Sky Busters**  
13366 Yager Drive  
Strongsville, OH 44136

