

Newsletter of the Huntsville Area Rocketry Association

MAX-Q

Vol. 2 No. 4 June/ July 1988



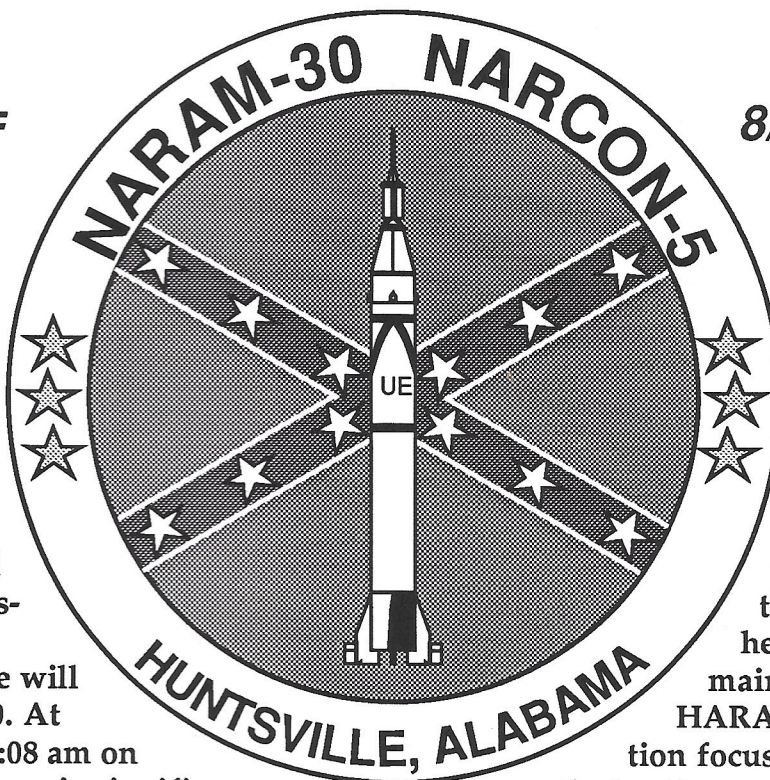
#403

1987 Section Reserve National Champions

NARAM-30 Comes to Huntsville!!!

NARAM-30 =

8/8/88, 8:08:08



When the digits on your chronometer all read eight, and the LED's are all lit and the liquid crystals are all charged, something incredible will happen. NARAM-30. At eight seconds past 8:08 am on 8/8/88 the event of cosmic significance will occur. Numerologists, astrologers and rocketeers will remember this moment in time and space.

NARAM-30 is the celebration of thirty years of space flight and model rocketry. It is demonstrations and reports. It is involvement with modelers nationwide. It is show and tell. It is preparation for the future. It is fun. It is business. It is a whole week of flying rockets.

MAX-Q has not said much of NARAM-30

yet since most of HARA is already working on it and there is more to tell than can be written here. But now it is the main event, and all HARA's and NAR's attention focuses to NARAM. As the hosting section, it is our objective to hold the best NARAM ever. From our eighteen months of planning, we are ready to do just that.

NARAM-30 will be rocketry history. It will be the modeling event of the decade. So many will be there and so much will happen that it is appropriate that this event have such a special time and date. Whatever your participation in it can be, make it so. You won't get another chance: 8/8/88 8:08:08 occurs only once.

Wadding Scraps



Tips and Tricks

New Products-- Rocket Paint?

Would you believe special paints and supplies just for rockets? It seems two major hobby companies have released such products complete with rocket labels.

Testors, famous for plastic kits and associated supplies like paint, sandpaper, and glue, now has the same stuff out for model rockets. But we mean it is exactly the same stuff. They have taken their products for plastic kits and simply put rocket labels on them. So despite the label, the airplane cement has no more use in rocket building than it did before.

Pacta's line of Astro Color paint is a better story. Both spray and bottle versions are appropriate and attractive for model rocket finishing. It's available in fluorescent colors, too.

"Official" NARAM Penguin OPUS

Special thanks to Pat Saucier and the Alabama Space and Rocket Center for providing a meeting place for our monthly meetings.

MAX-Q Staff

Warden: Vince Huegele; Chief Guard: Robyn Steele
Institution: HARA; Head Inmate: Matt Steele; The Hard Labor Gang: Byron Papa, Wayne McCain, Bartles and James, Crocodile Wayne Hendricks, George Gassaway, Leisure Larry and the Lounge Lizards, Marty Williams, Hank Williams Jr., the Huntsville Stars, Calvin and Hobbes, Opus, and Commander Cody.

MAX-Q is the official newsletter of HARA, NAR Section #403. Articles, photographs, suggestions, comments, complaints, nasty letters, etc. are actively solicited from all members for the MAX-Q. MAX-Q subscriptions are included as part of membership dues of \$6.00 per year with additional family members at \$3.00 up to a total of \$12.00 max. Non-HARA subscriptions are available for \$5.00 per year. MAX-Q is produced and published on a Mac SE, Abaton Scanner and Laserwriter II NT (Courtesy North Coast Rocketry) using Ready Set Go! 4.0 by Robyn Steele

Trajectories

- We thank our range equipment director, *Jimmy Williams*, for his transportation, storage, repair, and fabrication of all our launch stuff. His and *Marty's* work has made flying better and easier.
- Congratulations to the following HARA members on their graduation: *Lee Olyniec* from Scottsboro HS, and *Gloria Johnson* from UAH (business).
- *Wayne Hendricks* has a new pad. Not a launcher, its a bigger condo for more rocket room.
- A very special welcome to *Emily Beth McCain* who landed June 16, 1988 to *Wayne and Dana*. Big brothers *John, Scott* and *Matt* will have to make room for this little girl. Emily was born only one day past due - is that why Wayne stopped at the post office on the way to taking Dana to the hospital?
- *Cody Steele* has applied for NAR membership and a number. Received in time for NARAM, # 46810 may insist on competing (or at least chewing on a model or two with his two new front teeth!)
- Besides the local elite, Max-Q now has paying subscribers worldwide. This publication goes to Tennessee, Georgia, Florida, Texas, Arizona, Ohio, California, Belgium, and Jasper. Newsletter exchanges also reach Kansas, Colorado, New York, Massachusetts, Virginia, Illinois, Michigan, Louisiana, and Scottsboro.

"Official" NARAM Wine Cooler: Bartles and James

Advertisement--Wanted. Proofreeder for Amerikan Spacemodling. Must be able to read and right words and numbers. Apply John Pursey. Equal Opportunity Volunteer.

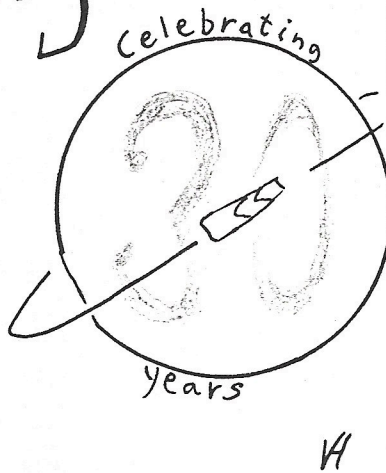
HARA T-Shirts

A second order of club T-shirts has come in. A good selection of sizes is available now, so call the McCains at 536-2241 to place your order. Make sure that you have a good supply to wear at NARAM-30!!!

Back Cover: Presently there are two stacked shuttles. Discovery is at Kennedy Space Center awaiting launch. Pathfinder is at Huntsville awaiting your inspection.

BARDLES & JAMES

PREMIUM
ROCKET
COOLER



ED AND I ARE HERE AT NARAM-30
RIGHT ALONG WITH ALL THE
OTHER MANUFACTURERS REPS TO
WATCH THE SOUTH RISE AGAIN!



WE'LL BE HERE TO TALK TO YOU
JUST LIKE SCOTT, GARY, BILL,
LARRY, CHRIS, MATT, AND JERRY!



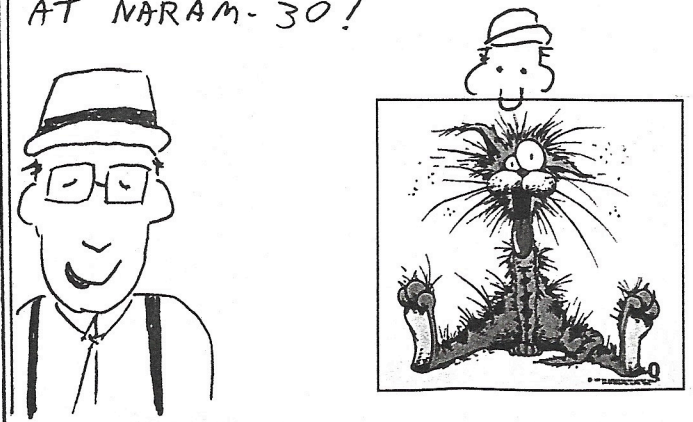
TO PROVE HIGH POWER
ROCKETRY IS SAFE, ED AND I
MADE AN R & D REPORT
LAUNCHING A LIVE PAYLOAD.



THIS ORDINARY HOUSECAT
WAS FLOWN TEN TIMES ON
A CLUSTER OF 'G'S TOTALING
1000 nt/sec.



AS YOU CAN SEE, IT HAD NO
APPRECIABLE EFFECT. WE
THANK YOU FOR YOUR SUPPORT
AT NARAM-30!



Schedule of NARAM Events and Activities



Sunday August 7, 1988

Time	Event	Location
9:00 am - 7:00 pm	Contestant Registration & Check-in	Ramada Lobby
3:00-4:00 pm	Opening Ceremonies & Manufacturers Demo	Old Airport Flying Field
7:00-8:00 pm	Contestants Meeting	Grand Ballroom (Ramada)

Monday, August 8, 1988

8:00-11:45 am	1/2A International Parachute Duration B Streamer Duration NARCON Building Sessions	Flying Field
12:30-4:00 pm	1/2A International Parachute Duration B Streamer Duration NARCON Building Sessions	Rosebowl Room (Ramada) Flying Field
7:00 pm-8:00 pm	BBQ	Rosebowl Room
8:00 pm-9:00 pm	Association Meeting	Grand Ballroom
9:00 pm-10:00 pm	Scale Turn in	Room 121
9:00 pm-10:00 pm	Research & Development Turn in	Room 121
9:00 pm-11:00 pm	Movies	Grand Ballroom
9:00 pm-11:00 pm	Motor Display	Rosebowl Room

Tuesday, August 9, 1988

8:00-11:45 am	B Eggloft Duration A Helicopter Duration	Flying Field
12:30-4:00 pm	B Eggloft Duration A Helicopter Duration	Flying Field
7:00 pm-8:00 pm	Morton Thiokol Speaker	Grand Ballroom
8:00 pm-11:00 pm	Movies	Grand Ballroom
8:00 pm-11:00 pm	Board of Trustees Meeting	Orange Bowl Room (Ramada)
8:00 pm-10:00 pm	LAC Meeting	TBD
8:00 pm-10:00 pm	Club Leaders Meeting	Rosebowl Room

Wednesday, August 10, 1988

8:00-11:45 am	Predicted Altitude F Altitude D Altitude	Flying Field
12:30-4:00 pm	Predicted Altitude F Altitude D Altitude	Flying Field
7:00 pm-8:00 pm	Manufacturer's Forum	Grand Ballroom
8:00 pm-9:00 pm	NAR Auction	Grand Ballroom
9:00 pm-11:00 pm	Movies	Grand Ballroom
9:00 pm-10:00 pm	Pink Book Talk	Rosebowl Room

Thursday, August 11, 1988

8:00-11:45 am	B Rocket Glide D International Boost Glide NARCON Flights	Flying Field
12:30-4:00 pm	Estes Space Camp Building Session B Rocket Glide D International Boost Glide NARCON Flights	Rosebowl Room Flying Field
7:00 pm-9:30 pm	Estes Space Camp Building Session	Rosebowl Room
7:00 pm-8:00 pm	Research & Development Presentations	Grand Ballroom
8:00 pm-9:00 pm	Space Camp Speaker	Rosebowl Room
	Space Camp Contest Turn In	Rosebowl Room

Friday, August 12, 1988

8:00-11:45 am	Sport Scale Parachute Spot Landing	Flying Field
12:30-4:00 pm	Space Camp Contest Flights	Flying Field
8:00 pm-10:30 pm	Internats Team Flyoffs: A Parachute Duration Banquet & Awards Presentation	Alabama Space & Rocket Center

Saturday, August 13, 1988

8:00-11:45 am	Flyoffs: A Streamer Duration	Flying Field
12:30-6:00 pm	E Radio Controlled Rocket Glider E Radio Controlled Rocket Glider	Flying Field
7:30 pm-8:30 pm	B Boost Glide U.S. Team Meeting	Rosebowl Room



NAR TOP COMPETITORS

as of 7/25/88

	NAR #	SEC #	POINTS	W F
<i>A Division</i>				
1 DON LINDER	35892	117	5,946	12
2 JEAN-ETIENNE LA VALLEE	39244	471	5,168	12
3 WILLIAM MOSER	38831	459	4,936	12
4 ANDREW LINDER	43406	117	4,731	12
5 PATRICK BARRETT	43642	205	4,124	11
6 CHRIS WEAVER	41889	203	3,886	12
7 MATTHEW SIAS	43745	403	3,512	12
8 MARSHALL GOTTUNG	43234	471	3,312	12
9 SAMANTHA MOSER	40761	459	3,032	12
10 JOEL LEE BURGESS	36016	203	2,945	12

<i>B Division</i>				
1 TIM BARKLAGE	44211	475	5,794	12
2 MARTY WILLIAMS	35301	403	5,484	12
3 LEE OLYNIEC	35214	403	3,496	12
4 JASON HAYNES	43119	403	1,958	10
5 KATHY KMETZ	44761	403	1,832	6

<i>C Division</i>				
1 DAN DOMINA	50570	205	5,086	12
2 DONALD LINDER	35893	117	4,935	12
3 WAYNE HENDRICKS	17818	403	4,203	12
4 JIM SEXTON	35936	461	3,862	10
5 SCOTT HUNSICKER	26555	480	3,418	12
6 ROGER WILFONG	36404	463	3,104	11
7 TRIP BARBER	4322	205	2,878	12
8 DAVID MOSER	28979	459	2,725	12
9 ALVIN NIENAST	28820	369	2,724	7
10 JIM ZINGLER	28818	369	2,593	7

<i>Teams</i>				
1 CRUNCH BIRDS	471	471	5,686	12
2 ZUNOFARK	48	403	4,870	12
3 DUAL EGGLOFTERS	2	117	4,423	12
4 LEE-PURCELL	241	203	4,362	12
5 HIGHER STRAIGHTS	343	475	4,252	9
6 JANOV AND PAVLOV	251	IND	4,244	12
7 IRON BANANA	588	117	3,105	12
8 BROWN & BROWN	7	205	2,031	12
9 J&P SRB'S	5	471	2,002	10
10 ACE DISASTER COMPANY	26	308	1,572	11

	SEC #	POINTS	W F
<i>Sections</i>			
1 HARA	403	34,270	12
2 NIRA	117	24,765	12
3 NOVAAR	205	22,988	12
4 VIKINGS	203	21,543	12
5 ASTRE	471	20,916	12
6 FORT WORTH	480	17,036	12
7 SMOKEY MOUNTAIN	486	16,979	12
8 RED STICK ROCKET SOCIETY	475	16,354	11
9 HUVARS	463	9,068	11
10 CENTRAL MINNESOTA	477	7,210	9

Redstone I



The drought that was scorching North Alabama meant fair weather in May for HARA's open NAR contest. Light and variable winds made easy flying and recovery for another record turnout. Matt Steele called it "the largest NAR contest ever held in the state," with 25 contestants registered.

Besides all the HARA people, the Mosers of SMMRC from Tennessee attended (that's six flyers there!) Making an appearance from Georgia was Rob Demopolis and Ty McAdam of GAMMA. Just passing through from Florida was John Edwards who entered one event. Lee Olyniec showed up but didn't fly, leaving B division to just Marty and Kathy. But ten A divisioners and twelve adults flew, even with some that could be named that didn't show.

Predicted duration was tight, as predicted. You had to be exact to win and Vince Huegele, with the first flight off the range, did. Wayne Hendricks was one second (or less) off [2.1%] followed by Jimmy Williams, also one second but 2.2%. Marty was 4.7% in B and Samantha Moser one second off in A [1.8%]. Nobody wants to find a thermal here.

As the duration events continued it became clear the haze in the air would have an impact. Timing became more a function of the timers' eyes than the actual flight duration as models faded in the distance. Dark colored flexies were visible just up to the max limit, but non-international events often had to cut off the clock because the models were gone although not down.

Such an example was the best flight in A helicopter. Kathy Kmetz had probably another 20 seconds on her flight after the timers lost it at 135. But she did win the event. Her brother John Kmetz Jr. won A division with Mark Atkinson of HARA next. It seems that building session of Rotarocs paid off well! Rotaroc inventor, George "Zunofark" Gassaway led the adults with John Kmetz Sr. and Crocodile Hendricks respectively second and third. "They work a lot better when you hook up the rubber bands," said John.

Gliders had problems not from wind but from death dives and incomplete ejections as many modelers are trying to learn the art of flex wings. John Jr. had the best times for 1/2A BG in his division with others DQing



Above: Redstone I participants

half their flights. Kathy DQed one flight so Marty won. Vince had an excellent second flight, but the booster kicked the engine giving the win to Crocodile. Zunofark and John Sr. filled out the points. The best flights definitely were in the morning hours before the wind came up.

Those early flights were an advantage in DIBG for the timers to follow the birds to a max. John Sr. got two maxes to win with Zunofark, Crocodile, and Jimmy Williams one apiece. The second flights determined the respective order. Matt commanded there would be only two rounds in the international events to expedite the contest. In the AIBG Marty got two maxes and Kathy one. William Moser topped John Jr. and the rest of the Mosers in A division.

The streamer event should have been easy, so why were there more DQ's here than in any other event, and most of them by adults? Jimmy and Zunofarks both maxed (60s in 1/2ASD) and then DQed to tie for 4th place. John Sr. had the other max and a good flight to take first followed by Wayne and Vince. Marty was ten seconds ahead of Kathy. William led John Jr., Samantha, and Aaron.

The scale modeling at HARA contests has become a hot event with nineteen entrees this time. Matt judged A and B groups and Marty handling the unenviable chore of rating C division. William won again with Mattias Sias right behind him, then Samantha and John Jr. Marty outscored Kathy. The Zunofark rebuilt Sandhawk

flying on an "E" (with a real long delay!) beat Crocodile's Scout by 40 points. Barbara Moser was third only five points ahead of John Sr. Vince entered a vintage Estes Thor Agena-B he had built in 1971. Such sentimentality got him dead last.

The final results were not too unexpected. William Moser was a solid first in A and John Jr. firmly second. Samantha got third place for SMMRC and Matt Sias fourth for HARA. Mark Atkinson and John Anglin also brought home points for HARA. Marty broke 1000 points in B and Kathy raked in a healthy 732 to move ahead of Jason Haynes (who didn't fly today) in club/national standings.

The adults were very restless in waiting for the C division results. Matt's new 'leader board' system to update and display contest status had showed a close race. When it was official, the Zunofark team had stole the trophy by only eighteen points ahead of Wayne Hendricks, who himself lead John Kmetz Sr. by a mere thirty. That's a 2.6 and 4.4 percent separation, respectively. While George sighed in relief, Wayne and John pondered the "what if's" of the day's flying and the fortunes of the wind. No longer are there any freebies, gimmies, or easy places. HARA has gotten good.

Down the curve was Vince in fourth place having a much better day than last time, and Jimmy in fifth, for HARA to get all the big points. The SMMRC got a fair chunk and GAMMA some too. Wayne, Dana, and Scott McCain flew a few events to collect 150 more HARA points.

In total club points, Marty leads B and Mattias leads A. Crocodile still leads C but John Kmetz Sr. has now passed Vince into second place. Where will it all end?

Besides the competition there were plenty of sport flights. John Anglin fired off his Phoenix several times. Mike Williamson had a large scale twin D Exocet with a L'eggs capsule for a nose. He also had a model that



Sports Scale models await judging in the Steele-mobile

dropped pods at staging resembling a SRB separation. John Edwards flew several things, but mostly sold out his rocket inventory of kits that he couldn't move to New York with him. Chuck Hall stopped by just long

enough to pick up his newsletter.

*The range was able to close by mid-afternoon due to everyone's cooperation in flying and participation in range duties. Everyone doing a little bit makes the whole thing work. "I'm developing a new system for keeping up with the flight cards," said CD Matt. "These contests are so big, I'll just have to run each open like a NARAM. August will be no problem." Robyn helped a lot, but was often busy with the other C. D. Steele.

**"Official" NARAM
range cat:**

Bill



Redstone I Results



PREDICTED DURATION

Name	Performance	Points
A Division		
1) Samantha Moser	(55/56) 1.8%	100
2) Aaron Moser	(62/67) 8.1%	60
3) Matt Sias	(40/36) 10.0%	40
4) William Moser	(45/50) 11.1%	20
Q) Thomas Moser	(50/60) 20.0%	10
Q) John Anglin	(40/31) 22.5%	10
Q) Ty Macadam	(40/14) 64.7%	10
Q) John Kmetz, Jr.	(45/75) 66.7%	10
Q) Mark Atkinson	(40/76) 90.0%	10
B Division		
1) Marty Williams	(43/45) 4.7%	100
2) Kathy Kmetz	(40/31) 22.5%	60
C Division		
1) Vince Huegele	(46/46) 0%	100
2) Wayne Hendricks	(48/47) 2.1%	60
3) Jimmy Williams	(45/44) 2.2%	40
4) David Moser	(48/44) 8.3%	20
Q) Barbara Moser	(50/44) 12.0%	10
Q) Zunofark Team	(33/28) 15.2%	10
Q) John Kmetz, Sr.	(53/41) 22.6%	10
Q) Dana McCain	(37/50) 33.3%	10
Q) Rob Demopoulos	(52/32) 38.5%	10
Q) Wayne McCain	(150/66) 56.0%	10

A HELICOPTER

A Division		
1) John Kmetz, Jr.	96 (47/49)	180
2) Mark Atkinson	86 (36/50)	108
3) William Moser	53 (23/20)	72
4) Thomas Moser	09 (05/04)	36
Q) Aaron Moser	04 (04)	18
B Division		
1) Kathy Kmetz	190 (135/55)	180
2) Marty Williams	113 (73/40)	108
C Division		
1) Zunofark Team	139 (139)	180
2) John Kmetz, Sr.	121 (69/52)	108
3) Wayne Hendricks	88 (35/53)	72
4) Vince Huegele	73 (28/45)	36
Q) Jimmy Williams	71 (28/43)	18
Q) David Moser	67 (42/25)	18
Q) Barbara Moser	5 (05)	18

A INT BG

A Division		
1) William Moser	133 (34/99)	240
2) John Kmetz, Jr.	95 (42/53)	144
3) Aaron Moser	83 (83)	96
4) Samantha Moser	65 (65)	48
Q) Thomas Moser	13 (13)	24
B Division		
1) Marty Williams	360 (MAX/MAX)	240
2) Kathy Kmetz	224 (MAX/104)	144

D INT BG

C Division		
1) John Kmetz, Sr.	540 (MAX/MAX)	280
2) Zunofark Team	455 (185/MAX)	168
3) Wayne Hendricks	398 (128/MAX)	112
4) Jimmy Williams	311 (MAX/41)	56
Q) Vince Huegele	159 (139/20)	28
Q) Rob Demopoulos	18 (18)	28
Q) David Moser	14 (14)	28
Q) Wayne McCain	12 (12)	28

1/2A INT SD

A Division		
1) William Moser	94 (54/40)	160
2) John Kmetz, Jr.	66 (27/39)	96
3) Samantha Moser	61 (36/25)	64
4) Aaron Moser	33 (DQ/33)	32
Q) Thomas Moser	28 (28/DQ)	16
Q) Ty Macadam	21 (11/10)	16
Q) Matt Sias	06 (CATO/06)	16
B Division		
1) Marty Williams	65 (43/22)	160
2) Kathy Kmetz	55 (15/40)	96
C Division		
1) John Kmetz, Sr.	117 (MAX/57)	160
2) Wayne Hendricks	106 (50/56)	96
3) Vince Huegele	78 (49/29)	64
4) Jimmy Williams	60 (MAX/DQ)	32
4) Zunofark Team	60 (MAX/DQ)	32
Q) David Moser	43 (DQ/43)	16
Q) Rob Demopoulos	33 (33/DQ)	16
Q) Dana McCain	33 (21/12)	16

Name	Performance	Points
Q) Barbara Moser	25 (25/DQ)	16
Q) John Edwards	06 (06)	16

1/2A BG

A Division		
1) John Kmetz, Jr.	171 (27/144)	200
2) William Moser	70 (DQ/70)	120
3) Matt Sias	40 (DQ/40)	80
3) Samantha Moser	40 (DQ/40)	80
4) Thomas Moser	07 (07)	40
B Division		
1) Marty Williams	158 (28/130)	200
2) Kathy Kmetz	20 (20/DQ)	120
C Division		
1) Wayne Hendricks	136 (120/16)	200
2) Vince Huegele	125 (125/DQ)	120
3) Zunofark Team	116 (43/73)	80
4) John Kmetz, Sr.	81 (81/DQ)	40
Q) David Moser	62 (52/10)	20
Q) Rob Demopoulos	62 (30/32)	20
Q) Jimmy Williams	48 (28/20)	20
Q) Barbara Moser	38 (38)	20
Q) Dana McCain	30 (17/13)	20

SPORT SCALE

A Division		
1) William Moser	890	220
2) Matt Sias	865	132
3) Samantha Moser	850	88
4) John Kmetz, Jr.	825	44
Q) Thomas Moser	820	22
Q) Aaron Moser	725	22
Q) John Anglin	720	22
Q) Scott McCain	710	22
Q) Mark Atkinson	525	22
B Division		
1) Marty Williams	760	220
2) Kathy Kmetz	610	132
C Division		
1) Zunofark Team	970	220
2) Wayne Hendricks	930	132
3) Barbara Moser	885	88
4) John Kmetz, Sr.	880	44
Q) David Moser	840	22
Q) Wayne McCain	790	22
Q) Dana McCain	770	22
Q) Vince Huegele	685	22

POINT TOTALS

A Division		
1) William Moser (SMMRC)	832	
2) John Kmetz, Jr. (HARA)	674	
3) Samantha Moser (SMMRC)	380	
4) Matt Sias (HARA)	268	
5) Aaron Moser (SMMRC)	228	
6) Thomas Moser (SMMRC)	148	
7) Mark Atkinson (HARA)	140	
8) John Anglin (HARA)	32	
9) Ty Macadam (GAMMA)	26	
10) Scott McCain (HARA)	22	
B Division		
1) Marty Williams (HARA)	1028	
2) Kathy Kmetz (HARA)	732	
C Division		
1) Zunofark Tm (HARA)	690	
2) Wayne Hendricks (HARA)	672	
3) John Kmetz, Sr. (HARA)	642	
4) Vince Huegele (HARA)	370	
5) Jimmy Williams (HARA)	166	
6) Barbara Moser (SMMRC)	152	
7) David Moser (SMMRC)	124	
8) Rob Demopoulos (GAMMA)	74	
9) Dana McCain (HARA)	68	
10) Wayne McCain (HARA)	60	
11) John Edwards	16	
12) Ed Stuka	0	
HARA		
1) HARA	5564	
2) SMMRC	1864	
3) GAMMA	100	

"Official" NARAM computer
Macintosh

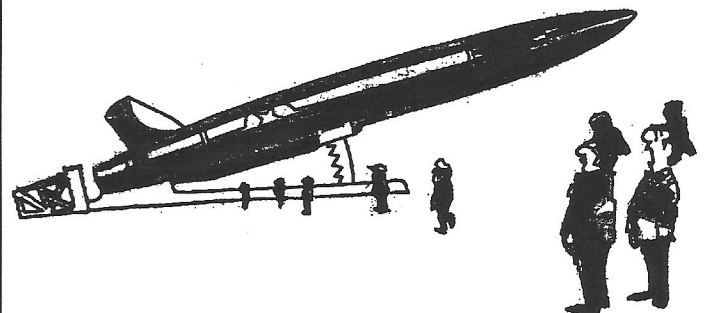


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•Reasoner, David & Colin 3103 Holly Hill, 35802	883-7629
•Russell, Chas 3741 Longstraw Dr., Ft Worth, TX 76137	
•Sias, Mathias and Frank 871 Moontown Rd, Brownsboro, 35741	852-8771
•Sin, Peter 3014 Thurman Rd 35805	536-6716
•Smith, Henry 3709 Vogel Drive, 35810	
•Snyder, Chris 14009 Percivale Dr. 35803	882-1905
•Steele, Matt (HARA VP), Robyn & Cody 13011 Branscomb Rd., 35803	883-6020
•Stluka, Ed & Thomas, Michael 2802 Brett Rd, 35801	852-3850
•Stubblefield, Katie 1714 Sandlin Ave., 35801	534-5359
•Tansy, John and Brian 133 Cedar Lane; New Market, 35761	
•Tygielski, Mark 406 Green Acres, 35804	837-7486
•Wagschal, Dick 6206 Rime Village 35806	837-9325
•Williams, Jimmy & Marty 3203 Fairacres Rd., 35803	539-4801
•Williams, Ron 109 Fair St., Chattanooga TN 37415	n/a
•Williamson, Mike P.O. Box 322; Madison 35758	837-1853
•Wingate, Jason 2908 Azalea Circle, 35805	539-6707
•Yeager, Carl & Jeff 4316 Shelby Ave. 35801	539-2839

*"Official" NARAM Underwear
Calvin Kline*



**"These NAR Members! It's not even
operational and already they want scale data!"**



Countdown 1988 Calendar



- JULY:** 9 July; Building Session
16 July; NARAM SIM. Launch & Range simulation test
21 July; Meeting 7:30 PM
23 July; Building Session
- AUGUST:** 8-12 August; NARAM-30 Huntsville, Alabama
12-13 August; Internats Flyoffs (see schedule pg 4)
20 Aug: 5:30 pm POST NARAM BLUES BASH (pool party)
- SEPTEMBER:** 15 Sept; Meeting 7:30 PM
17 Sept; Sport Launch
- OCTOBER:** 8 Oct; Rocket City Classic #7
20 Oct; Meeting 7:30 PM
22 Oct; SEDS demo, UAH
- NOVEMBER:** 17 Nov; Meeting 7:30 PM
19 Nov; Turkey Shoot: NAR Regional
- DECEMBER:** Happy Holidays!!!

Meetings are held at the ASARC
Launches will be held at the Old Airport
unless otherwise announced.

Please contact Vince Huegele, HARA President (881-2904) or Matt Steele, Contest Director (883-6020) if you have any questions about the schedule or the contests. *Events subject to change*

"Official" NARAM Cat
Chow:
Little Friskies

Above: John John Kmetz shows
off his scale model at June Jam
II

Right: HARA club members
turn out for Redstone I Open.

"Official" NARAM
lightbulb:
Phillips





Memorial Day Demo at Point Mallard

It was balloons, then rockets, skydivers, and helicopters. That was the order of the sky objects seen at Decatur's Alabama Jubilee on Saturday, May 28, as HARA gave a launch demonstration at Point Mallard.

The Jubilee is billed mainly as a hot air balloon race, but this year HARA was invited to be part of the festivities. Jubilee organizers contacted Vince Huegele about staging a launch after hearing about the demo at MSFC last fall. They wanted us to fly rockets later in the morning after the balloons had taken off.

The weather was clear and calm and the balloons had already gone (6:30 am launch) when HARA members arrived to set up (10:00 am launch). Attending were Wayne Hendricks, John and John Jr. Kmetz, Jimmy and Sandy Williams, Vince and Sharal Huegele, George and Margaret Gassaway, Bill and John Anglin, and Lee Olyniec who didn't fly but took video.

The range erection went smoothly and ahead of schedule. Crocodile couldn't wait until ten, so with clearance, he shot his MaxiAlpha with a parasite glider to tease the gathering crowd of 250 spectators. Vince Huegele warmed up the PA system and kept a steady narration going to fill in the slow spots while models were being recovered or prepped.

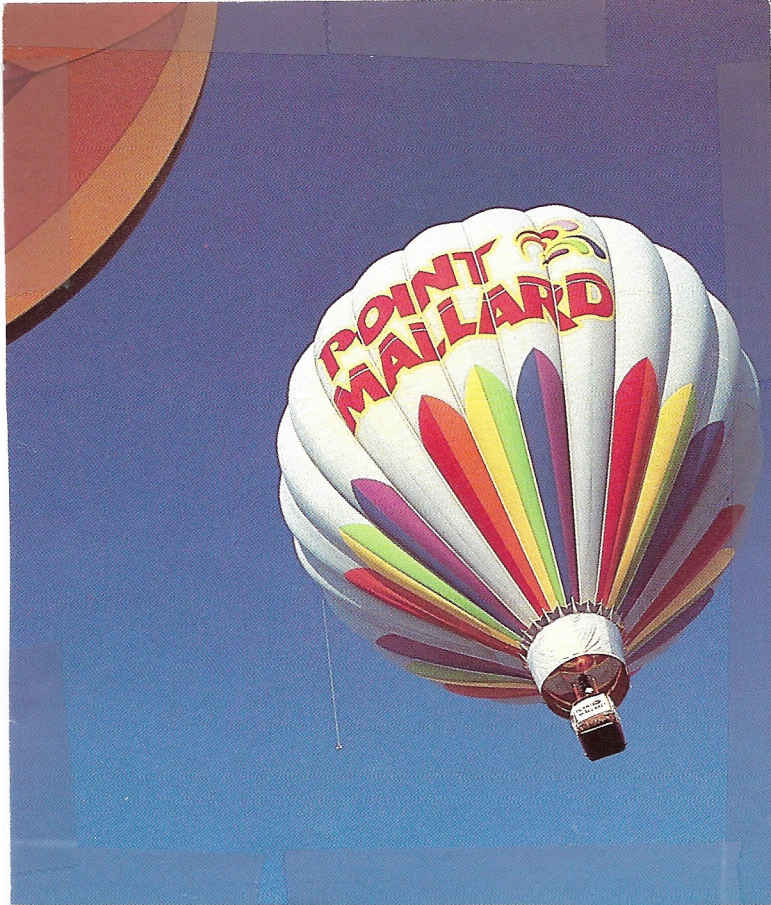
Flying began with a couple of Big Berthas. Mean Machines with orbiters were alternately flown by Jimmy, Vince, and George. John Kmetz put up a regular Rotaroc, and later George flew a "D" size Rotaroc that impressed everyone. John Anglin contributed by launching a Phoenix and a Sentinel. Jimmy's coke bottle rocket got lots of attention.

George had an original design X-Wing Star Wars fighter that glided. A clear plastic canard swings out as the motor pod ejects to make it really look good. George and Wayne had a drag race with UFOs demonstrating a duel launch. After scale versions of the Stealth and

Scout, Wayne bravely fired his Centuri Saturn V on a cluster of C's. It was easily and anxiously caught by the acting recovery crew of John and John Jr. Has anyone flown (or even built) the new Estes Saturn yet? Not so fortunate was Wayne's large Honest John that didn't get all its parachutes out. Between countdowns, Vince was able to fly a Centuri shuttle where both orbiter and booster glide back.

Regarding high power, there were two Star Spangled Birds and their unmistakable paint scheme. George flew a twin D version and then Matt's proxy model on an F composite. The peak altitude flight of the day was Matt's Renegade also on an F41 that became the only casualty to the trees. These big rockets were launched off of Vince's "Maxi-Pad" launcher. Plans for this launcher were featured in Snore News and also won the Estes design of the month contest for November 1987. Ironically, the launcher was built in 1970 and was way ahead of its time.

The demonstration was to conclude at eleven with the arrival of skydivers from a helicopter. They were all late, so Wayne flew his MaxiAlpha once more to end the show. About noon the Sky Crane chopper dropped eight divers who spot landed in



the flying field. The chopper then carefully landed on the other side with the crowd following it. The people converged around the airship much like the scene from "Close Encounters." A spectator asked "how many G motors would it take to lift up that?" to which he got the reply, "don't know, but it would take only one to bring it down."

For the next hour a few HARA members remained to talk to people and answer questions. After that it got hot enough to send the rocketeers home. "This was more fun than the contests," said Crocodile. "No timing or pressure, just flying rockets." Others enjoyed showing off for the crowd too. And ...we got applause.



The Fight For The Finish

A series on painting and finishing model rockets

by Byron Papa

(Ed. Note: HARA member Byron Papa is a professional homebuilder and remodeler. His expertise in home-crafts have been published in *Fine Homebuilding*. Applying that expertise to rocket building, Byron presents this series of articles. We think this represents a broad advancement in documenting a technique.)

Part One

Introduction:

I bought my first model rocket (a Centuri Javelin) some time in the mid-sixties. I painted it bright red with a cheap artist brush and a small jar of Testor's model paint. Somehow, it didn't turn out like I'd envisioned it. Real rockets are made of sleek, slick metals and advanced materials with flawless finishes. My Javelin looked like the cardboard tube from a spent roll of aluminum foil with slabs of roughsawn wood for fins and a whittled nose cone; and the crude, jerky texture from the paint brush didn't improve things. The farther away you got, the better it looked.

Subsequent efforts with kits that followed (Micron, Lambda Payloader and Arcon Hi come to mind) yielded little improvement over the original, and by the time I lost interest in the hobby two years later, I'd pretty well concluded that paper and wood rockets just couldn't look very slick.

By the early 1980's and with two nephews to entertain, I was back into the hobby. This time, I was determined to improve the finish of my rockets and shed that old spiral paper tube and wood look, one way or another. By this time, I'd had plenty of practice in real-world finishing. Although I'd experimented with a lot of different kinds of paints and clear coatings, and had finished a lot of things, including a fiberglass boat, some furniture and a couple of cars, most of my experience at the time lay in the various facets of house painting.

From the onset, I was never quite satisfied with what people would accept as a good paint job on the trim and cabinets in new houses. I set out to improve upon age-old methods and eventually our wood door frames started looking like fiberglass. By 1986, I found myself writing a series of "methods" articles for a prominent trade magazine called *Fine Homebuilding*

(my second article, written about varnishes and lacquers, is out this month and next). About 4 years ago (I was probably having a beer somewhere) I realized that I could probably transfer many of the same "low tech" methods and materials I used for cabinets and door trim to model rockets. It took some trial and error, but eventually it worked. My refined process yields a very attractive and lustrous paint job that comes with very little extra weight to the rocket, and most anyone can do it without expensive and exotic spray equipment.

First, one must understand the fibrous materials that model rockets are made of and how they react to paint. Balsa wood, birch plywood and paper tubes are hardly space age, and unlike plastic and metal, are not all that smooth to begin with; they become even rougher with the first coat of paint. Getting them smooth is not a one step job. In the final analysis, you want to have a film of paint, as thin and light as possible, one side which hugs the rocket, following its rough and uneven textures, the other side smooth and mirror-like, with as little as possible in the middle. You can't really smooth out the rocket much. You can only "build up" a smooth surface on top of it.

How much trouble a modeler wants to go through for a good finish depends on the individual, and perhaps on the particular rocket. It's hard to argue against the case that model rockets get lost or blow up soon after they're built anyway so why bother. And although contest models should probably have no paint at all to save weight, I like slick-looking sport models and think they're worth the effort. With scale models, a superior finish is not an option, but a requirement. When building most anything, rockets included, finishing is usually the last step. But for the best work, one should think "finish" all the way through the building process. With a house, knowing details about various finishes up front will often determine what types of materials to use. Although a typical model rocket will mostly be finished at the end, some steps, if done ahead or as you go along, will save a lot of time, make the already unpleasant job of finishing a good bit easier and yield a better job. With scale models, a lot of planning may have to be done; some parts may have to be *completely* finished before assembly. Sometimes the model's instruction book will tip you off, sometimes it won't. The best decisions here come with experience.

Spackle *The Secret Weapon*

With model rockets, there are two major surface irregularities that we have to deal with: 1) the inevitable groove common to spiral-wound paper body tubes, and 2) the natural wood pores of balsa (and to a lesser extent, birch). Both of these imperfections are far too severe for the traditional slow-drying liquid fillers offered by the model industry to handle with any reasonable amount of effort and time. What is needed here is not a liquid, but a paste-type filler, able to handle the relatively deep flaws in a single pass. Automobile fillers are available, but they are much too difficult to sand and fool with.

I use ordinary ready-mixed interior spackling paste (also called spackle, spackling, vinyl spackle and spackling compound). It's cheap, easy to use, water-based, low in toxicity, relatively easy to sand and is readily available. It is mainly intended for patching walls and ceilings, and in construction we use it to pre-fill nail holes in enamel trim and cabinets.

Beware when purchasing this stuff; there are two main types of ready-mixed spackling paste on the market these days. A new "lightweight" variety has just appeared. At first, it seemed that this would be perfect for weight sensitive model rockets. But the light weight of the material is achieved with air being trapped in tiny glass spheres (a lot like the scratch and sniff perfume ads). The advantage to regular paste users is that the spheres do to spackle what gravel does to concrete: they promote dimensional stability (it doesn't shrink much). Unfortunately, the same glass spheres, although tiny, make the texture of the paste too coarse to deal with our spiral grooves or balsa grain. Instead, I use the older, heavy-weight spackling paste. If in doubt, feel the weight of the container; the new stuff will feel empty, whereas the old stuff is as heavy as a rock. Don't get the exterior type; it's harder to sand and has absolutely no advantages over the interior type for rockets. DAP is the brand most often seen, but all the brands are pretty much alike.

You can spackle a model after its assembled, but it's much easier to do it ahead. The spackling paste won't weaken the glue joints. The body tube can be spackled right out of the kit. With the fins, you'll want to shape and round the edges first.

You'll need a 1 1/2 inch putty knife (I prefer a one piece plastic knife- it's less sharp and more forgiving if you happen to jab a balsa fin), a wet paper towel and an index card (to mix the paste on). Some brands of paste will come a little thicker than others, but in general I thin it about 3-4 drops of water to 1/2 teaspoon of paste. You can use an old eyedropper to measure out the water, but gently squeezing a soaked paper towel will do just as well. you can also use the towel to clean your fingers.

Spackle one side of the fins first. Lay each fin on a flat surface and flush-fill the entire surface with the loaded putty knife as you would patch a hole in a wall. Look closely at the grain as you go and try to get all the deep holes filled. You can run the knife again, but the paste begins drying almost immediately, so you can't play with it long. While the first side of the fins are drying, you can do the tube(s). Note that balsa fins will sometimes warp after one side is spackled. The warpage will be convex to the spackled side and is due to the moisture from the paste soaking into the wood, expanding it. It will mostly flatten out when the other side is done.

As for the tube, you don't need the putty knife. I use my finger and slightly over-fill the spiral groove. Using a putty knife on a curved surface is difficult at best, and chances are that if you try it, you'll end up under-filling the gap. Note that body tubes will have more than one spiral marking; only one will usually require filling- you can feel it with your fingernail and it is usually more pronounced in color. Do over-fill the groove, but the trick is to over-fill as little as possible, so you don't have so much to sand off later; the smaller the finger, the easier the task.

After the flip side of the fins are done, you can visually sight pores on the 3 edges of the fins that will be exposed (not the root edge, of course) and fill them with paste. Launch lugs also have a spiral groove which can be filled ahead, but I usually just catch it with primer. Plastic nose cones and parts usually don't need spackling, unless there's a small nick or dent. If they do, try to scratch the surface with sandpaper first; the spackle's not likely to adhere well to such a slick surface. Although they come pretty smooth, foam nosecones usually have defective air pockets that need filling. These can be tricky, as you may have to dig out the "skin" first.

Spackling paste is usually ready to sand in 15 minutes to a half hour. Sanding is unequivocally the most unpleasant job of model rocket finishing, but one of the most necessary. To make the job as easy as possible, use good sandpaper. There are several types on the market, but for most sanding, I prefer silicon carbide. You might also consider aluminum oxide (it's used for sanding belts), but I wouldn't mess with cheap papers like garnet or flint; in the long run you'll pay more and the work will be harder. Although silicon carbide is the best, unfortunately, it's also the most expensive of the sandpapers. It is available at most paint stores and wherever automotive paint is sold, but will usually cost 50-70¢ a sheet. I buy large quantities by mail order for about 25¢ a sheet (the same you'd pay for lousy paper off the shelf) and offer it to any club member for that price. If you're interested in ordering quantities directly, one supplier is: Industrial Abrasives Co., 642 North 8th St., Box 14955, Reading, PA 19612.

For sanding spackle, you'll need 220 grit. I usually

etc.



(continued from page 13)

cut the paper into small 1 X 2 inch pieces and fold them in half. When folding sandpaper, never let a grit side contact another grit side, or you'll destroy the cutting surface before it's even used. To sand a body tube, hold it in the palm of your hand and sand in the direction of the spackled groove. Hold it firmly, but be careful with thin Estes tubes; they're easy to dent. The paper around the groove will get scratched by the sandpaper as you sand, this is to be expected, just keep it to a minimum. Try to do the sanding outdoors, so you don't make such a mess, and wear a dust mask if possible.

The balsa fins are best sanded on a flat surface. Be careful; balsa wood is awfully soft and easily gouged with sandpaper. Sand only until the spackle is flushed down. Sand the edges with a sanding block, if possible. This will help to keep it straight and true. (If you do spackle after the rocket is assembled, lay one fin at a time flat on the edge of a table with the rocket hanging over the side; you'll have to apply some pressure and this is the best way to do it). After sanding, there will usually be a few areas that were missed or (especially on the body tubes) that chipped out. You can re-spackle them at this time or wait until the rocket is assembled and ready to paint.

If you've spackled a foam nosecone, be careful not to sand through the exterior "skin" in the surrounding area. Although plastic nosecones generally don't need any type of filler, use the 220 paper to heavily sand the mold line to smooth it out.

In assembling the model, if you use water-based glue (Elmer's white glue, etc.), be hasty in smoothing and cleaning the fin/body joints with a wet finger. A wet finger makes for a very smooth fillet, but the spackling paste is water soluble and can be washed out.

Next Issue: Priming Sanding and Finishing

NASA Now Has Videos

Want to liven up your next club meeting? Why not show a NASA video? Many of NASA's best documentary films are now available on VHS format, so that you can view them on your own 'home' equipment. Rental is free; you pay only postage and insurance. Ask for the 20 page catalogue (its free too!) "NASA Film and Video List" that describes titles and topics of all aspects of the space program and history. Write to your nearest NASA center Public Affairs office at the following addresses. Tell them you're part of a rocket club. They can do a lot for you.

NASA Goddard
Public Affairs 130
Greenbelt, MD 20771

NASA Ames
Public Affairs 204-12
Moffett Field, CA 94035

NASA MSFC
Public Affairs CA20
MSFC, AL 35812

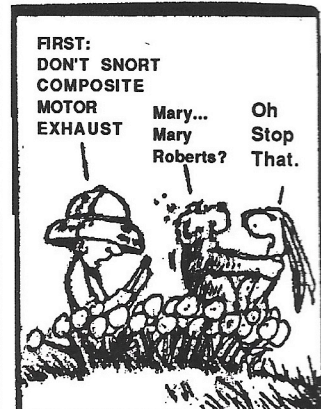
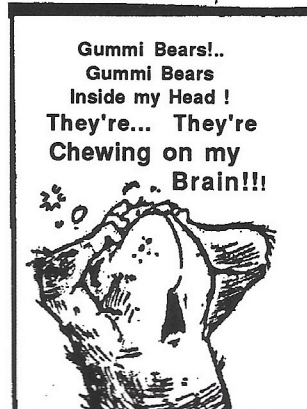
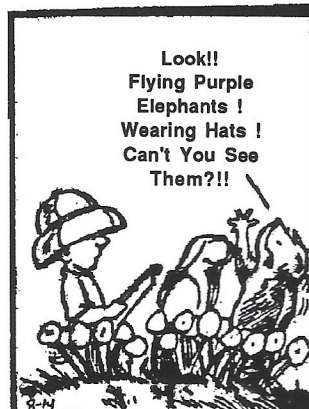
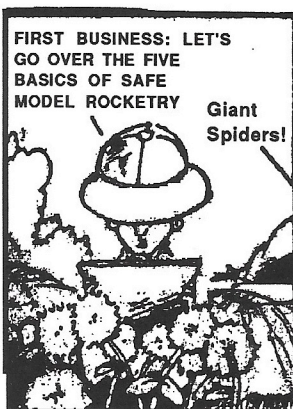
NASA KSC
Public Affairs PA-EPS
KSC, FL 32899

NASA Langley
Tech Library 185
Hampton, VA 23665

NASA Lewis
Film Service Dept 22
21000 Brookpark Rd
Cleveland, OH 44135

NASA JSC
Film Distribution Library
Houston, TX 77058

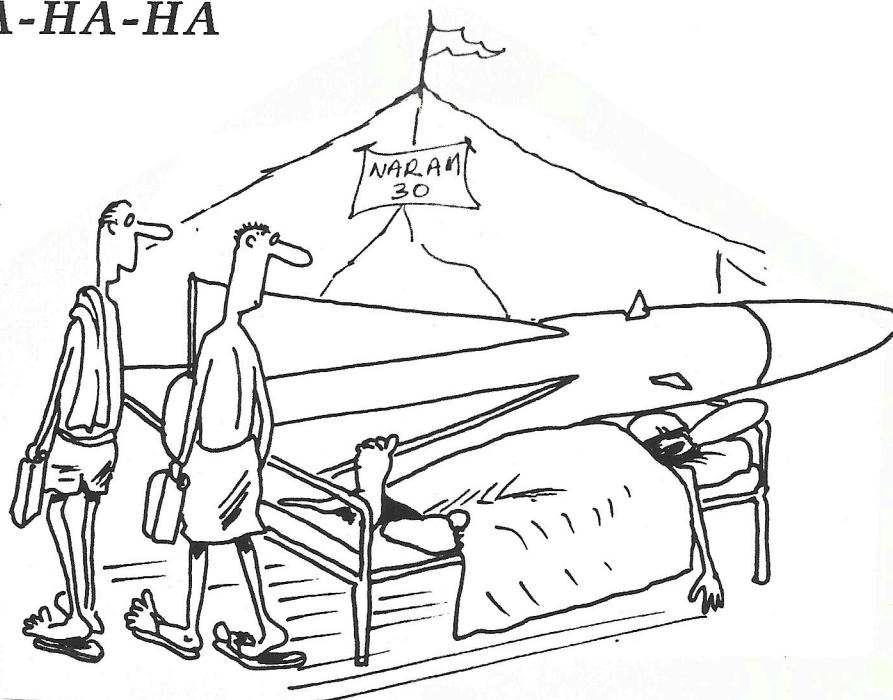
"Official" NARAM Potato Chip Golden Flake





and etc.

HARA-HA-HA



"That's Vince's Giant Sport Scale. Sharal wouldn't let him keep it at home!!!"

"Official" NARAM cartoon:
Bloom County

"Official" NARAM mascot:
Spuds MacKenzie



David and Mark Atkinson and friend man the range during HARA's practice tracking session.



George Gassaway preps a PD bird at June Jam

June Jam II



Marty Williams and his scaled up Lilliput

When summertime arrives there's not a breath of air to cool off from the heat. Normal people stay in the shade, but model rocketeers go out into "great flying weather." And so it was at HARA's second June Jam, (no connection to Ft. Payne) this year held at MSFC. It was hot as the drought of '88 continued but calm and perfect for glider and parachute duration.

Only the home folks were in this one so the club score got a big boost. Specifically, 6550 points were added to bring HARA's pre-NARAM total to 34,270. New HARA members John and Brian Tansy and Carl Gustin (from Birmingham) attended to see what a contest was. George Gassaway (Zunofark Team) and Randy Kelling (Randy & Robyn Team) were also up. Dan Kafun of SNOAR was

the only non-HARA contestant.

The different launch location was a novelty to the flyers but the new firing panel had a bug in the fuse system that disabled some of the launchers. Flying in the muggy June haze hampered tracking and timing. It was so hot, people were using parachute powder for other purposes.

Matt Sias was also hot, collecting 988 points for the day to win A division. With no Mosers to fight, Matt was first in five of the seven events. He was 5% off in predicted duration and over 900 points in sport scale. He got two maxes in A I BG and flights over a minute in the SD and PD. Matt now has 3506 points for the year and is in the top ten nationwide.

John Kmetz Jr. was number two in A but was number one in spot landing and 1/2A IBG with a max. He was second in four other events with a good performance considering he had a ball game to go to after the contest.

Derek Nolin was third in his best contest flying yet. By entering most events he learned a lot in one day and has the points to show it.

Marty Williams won B division again, but this time by only 24 points above Kathy Kmetz. He was first in four events and double maxed in AIBG. He also maxed in 1/2A IBG for second. His scaled up Lilliput model attracted some attention (See SNOAR News, March 88 issue). He is still the national leader in B division.

Kathy was barely second winning the streamer, parachute, and 1/2A IBG events. The double max with the chute and one with the flexie kept her running after models. She was second in three other categories for another high score for HARA and is now only 24 points behind Lee in club standings.

Jason Haynes was third in B being flown proxy by Lee Olyniec who was fourth. They both flew five events, but Lee didn't enter sport scale and got behind there. Otherwise, they alternated places.

It was upset time in C division as Wayne Crocodile Hendricks solidly captured first by 80 points over the Zunofarks. He won four events with a double max in 1/2A IBG and dropping his UFO within 14 feet of the spot target. His Saturn V just did win in static points and his streamers were best. But he didn't max in DIBG and was last in the other two events. Wayne is in the top three nationally. George and Matt (Zunofark) were good enough for second with their only win in DIBG. But they were consistently second or third in four other events for points there. Having two DQ's didn't help.

John Kmetz Sr. kept his pace competitive arriving third with still a large chunk of points. Like the May contest, the top three adults had a big take rather than

just the winner take all. John maxed a parachute to win that and was second in streamer and both glider events. He clearly holds second in club C ratings.

Randy and Robyn sneaked into fourth by consistent qualified flying. They were second in 1/2A BG and spot landing and third in sport scale. Robyn helped Contest Director and Commander Cody while Randy did the launching.

Vince Huegele's only claim to fame for the day was winning predicted duration by two seconds. He maxed in DIBG but neglected to make another flight. Both parachute flights separated and his ancient Centuri Point barely landed within the tape.

Club SNOAR accrued credit from Dan Kafun in his qualified or better flights in six events. Dan was also busy with several high powered launches including two spectacular G flights that he even recovered. Not so happy was one firing that hung on the launcher (becoming a static smokey sam) or the propellant rupture that crashed another model 'real good.' A skeptical Matt Steele then static test fired a similar engine to see what was going on with that lot.

Jimmy Williams would like to know what gremlin got into his batch. He had engine trouble in competition that took a lot of fun out of the day. He did coach Derek some in prepping models.

Carl Gustin entered spot landing just for fun. Later he put up a D powered Big Bertha that was found after the range closed. He's interested in simple electronic payloads.

Byron Papa didn't fly this time but performed the crucial job of head timekeeper for everyone else. Later, he and Gail demonstrated new spray paint nozzles and filler and graciously gave out free samples. His professionally finished models are totally without grain or grooves.

None of the McCains attended this launch. They were celebrating Emily's birthday.



Crocodile Wayne Hendricks and his winning Saturn V



Although picnic tables were reserved in the shade, HARA's fly or die competitors persevered straight through lunch and the heat to the end. Wayne brought a cooler of drinks to profit the club. Thunderstorms in the south developed but didn't wet the range. At the end of the contest there was of course, great relief that it was all over, but the growing anxiety that now, NARAM was next.

Left: Dueling Black Brandts of Dan Kafun & Randy Kelling

June Jam II Results



Name PREDICTED DURATION

Name	Performance	Points
A Division		
1) Matt Sias	(40/39) 5%	100
2) Derek Nolin	(30/27) 10%	60
3) John Kmetz, Jr.	(45/19) 57%	40
B Division		
1) Marty Williams	(43/42) 2.3%	100
2) Kathy Kmetz	(35/41) 17.4%	60
3) Jason Haynes	(40/61) 52.5%	40
4) Lee Olyniec	(60/27) 55%	20
C Division		
1) Vince Huegele	(46/44) 4.4%	100
2) Dan Kafun	(35/37) 5.7%	60
3) John Kmetz, Sr.	(43/40) 7.0%	40
4) Randy & Robyn Tm	(37/42) 13.5%	20
Q) Jimmy Williams	(40/34) 15.0%	10
Q) Zunofark Team	(32/27) 15.6%	10
Q) Wayne Hendricks	(47/56) 19.1%	10

1/2A SD

Name	(sec)	Points
A Division		
1) Matt Sias	124 (67/57)	100
2) John Kmetz, Jr.	94 (46/48)	60
3) Derek Nolin	16 (16)	40
B Division		
1) Kathy Kmetz	119 (93/26)	100
2) Lee Olyniec	59 (45/14)	60
3) Jason Haynes	33 (23/10)	40
C Division		
1) Wayne Hendricks	124 (39/85)	100
2) John Kmetz, Sr.	80 (31/49)	60
2) Zunofark Tm	80 (80/DQ)	60
3) Vince Huegele	78 (43/35)	40
4) Randy & Robyn Tm	60 (36/24)	20
Q) Jimmy Williams	28 (28/DQ)	10
Q) Dan Kafun	20 (9/11)	10

1/2A INT BG

Name	(sec)	Points
A Division		
1) John Kmetz, Jr.	122 (MAX/32)	240
2) Matt Sias	42 (21/21)	144
B Division		
1) Kathy Kmetz	117 (27/MAX)	240
2) Marty Williams	112 (22/MAX)	144
3) Jason Haynes	22 (22)	96
4) Lee Olyniec	12 (12)	48
C Division		
1) Wayne Hendricks	180 (MAX/MAX)	240
2) John Kmetz, Sr.	114 (20/94)	144
3) Zunofark Tm	109 (MAX/19)	96
4) Vince Huegele	102 (65/37)	48
Q) Jimmy Williams	73 (30/43)	24
Q) Dan Kafun	32 (5/27)	24
Q) Randy & Robyn Tm	28 (28)	24

A INT BG

Name	(sec)	Points
A Division		
1) Matt Sias	240 (MAX/MAX)	240
2) John Kmetz, Jr.	100 (71/29)	144
3) Derek Nolin	18 (8/10)	96
B Division		
1) Marty Williams	240 (MAX/MAX)	240
2) Kathy Kmetz	91 (48/43)	144
3) Lee Olyniec	28 (DQ/28)	96
4) Jason Haynes	22 (22)	48

D INT BG

Name	Points
C Division	
1) Zunofark Tm	488 (218/MAX)
2) John Kmetz, Sr.	357 (MAX/87)
3) Wayne Hendricks	310 (102/208)
4) Vince Huegele	270 (MAX)
Q) Jimmy Williams	105 (47/58)

1/2A INT PD

Name	Points
A Division	
1) Matt Sias	143 (71/72)
2) John Kmetz, Jr.	122 (82/40)
3) Derek Nolin	8 (8)
B Division	
1) Kathy Kmetz	240 (MAX/MAX)
2) Marty Williams	152 (62/90)
C Division	
1) John Kmetz, Sr.	217 (97/MAX)
2) Randy & Robyn Tm	207 (87/MAX)
3) Zunofark Tm	114 (DQ/114)

4) Dan Kafun	38 (15/23)	32
Q) Wayne Hendricks	25 (16/9)	16

OPEN SPOT LANDING

A Division		
1) John Kmetz, Jr.	56'9"	40
2) Derek Nolin	Far, far away	24
2) Matt Sias	Far, far away	24
B Division		
1) Marty Williams	66'2"	40
2) Kathy Kmetz	Far, far away	24
2) Lee Olyniec	Far, far away	24
C Division		
1) Wayne Hendricks	14'1"	40
2) Randy & Robyn Tm	41'6"	24
3) Zunofark Tm	51'8"	16
4) Jimmy Williams	57'5"	8
Q) John Kmetz, Sr.	60'4"	4
Q) Vince Huegele	78'9"	4
Q) Dan Kafun	Far, far away	4
Q) Carl Gustin	Far, far away	4

SPORT SCALE

A Division		
1) Matt Sias	910	220
2) John Kmetz, Jr.	855	132
B Division		
1) Marty Williams	920	220
2) Jason Haynes	845	132
3) Kathy Kmetz	840	88
C Division		
1) Wayne Hendricks	965	220
2) Zunofark Tm	960	132
3) Randy & Robyn Tm	905	88
4) Dan Kafun	845	44
Q) John Kmetz, Sr.	780	22

POINT TOTALS

A Division	
1) Matt Sias (HARA)	988
2) John Kmetz, Jr. (HARA)	752
3) Derek Nolin (HARA)	284
B Division	
1) Marty Williams (HARA)	840
2) Kathy Kmetz (HARA)	816
3) Jason Haynes (HARA)	356
4) Lee Olyniec (IND)	248
C Division	
1) Wayne Hendricks (HARA) 738	
2) Zunofark Tm (HARA)	658
3) John Kmetz, Sr. (HARA)	598
4) Randy & Robyn Tm (HARA)	272
5) Vince Huegele (HARA)	248
6) Dan Kafun (SNOAR)	174
7) Jimmy Williams (IND)	80
8) Carl Gustin (IND)	4

1) HARA	6550
2) SNOAR	174

Club Point Leaders

A Division	
1) Matt Sias	3506
2) John Kmetz, Jr.	1756
3) Colin Reasoner	1072
4) John Anglin	468
5) John McCain	360
6) Derek Nolin	316
7) David Atkinson	328
8) Mark Atkinson	222
9) Scott McCain	170
B Division	
1) Marty Williams	5502
2) Lee Olyniec	2672
3) Kathy Kmetz	2648
4) Jason Haynes	1254
C Division	
1) Wayne Hendricks	4202
2) John Kmetz	2132
3) Vince Huegele	1646
4) Jimmy Williams	1064
5) Dana McCain	348
6) Wayne McCain	338
Teams	
1) Zunofark Tm	4870
2) Randy & Robyn Tm	440
Sections	
1) HARA	34,270



MRC MOONBLASTER REVIEW

Every modeler needs to understand that MRC is definitely in the rocket business. After a year in the market this company is now up to challenging Estes for a piece of the action. MRC has just released a new kit called the Moonblaster which bears inspecting. Billed for intermediate modelers this bird can take B, C or D power and is about two feet tall.

The first thing I wanted to check was the materials. The other MRC rockets I have seen had very thin body tubes. I put the MRC engine mount tube from this rocket up against an Estes BT-20 and sure enough the MRC tube was twice as flimsy as the Estes tube. The MRC 1" tube was also weak. But the MRC 1.5" tube against an Estes BT-60 was twice as strong! Likewise the 2" tube was more rigid. So the bigger the tubes, the better in this kit.

The plastic nose cone has detailing on it to mimic a space capsule, probably since MRC makes so many plastic kits. So if they're so good with plastic, why not make a plastic adapter instead of a paper shroud to join the main tubes? I think they should use more plastic, much like the old MPC rockets, if they want to stand ahead of Estes. Furthermore, they could try all plastic flying rockets like the old Cox designs.

There are two engine mounts with hooks to allow for the different size engines, but something's strange. One end of the engine hook is shorter than the other and the instructions confirm it. The long end is 1/8" like Estes but the rear end is half of that. I don't know how that's going to retain an ejecting engine. Better it would be to have the aft end 1/8" and the fore end longer. And did you know MRC engines are 1/8" shorter than Estes? Maybe it's because they're made in Germany.

The balsa fins are fine but the launch lugs are rough brown paper that's strong but ugly. The parachute is imported from Korea with a familiar rubber shock cord.

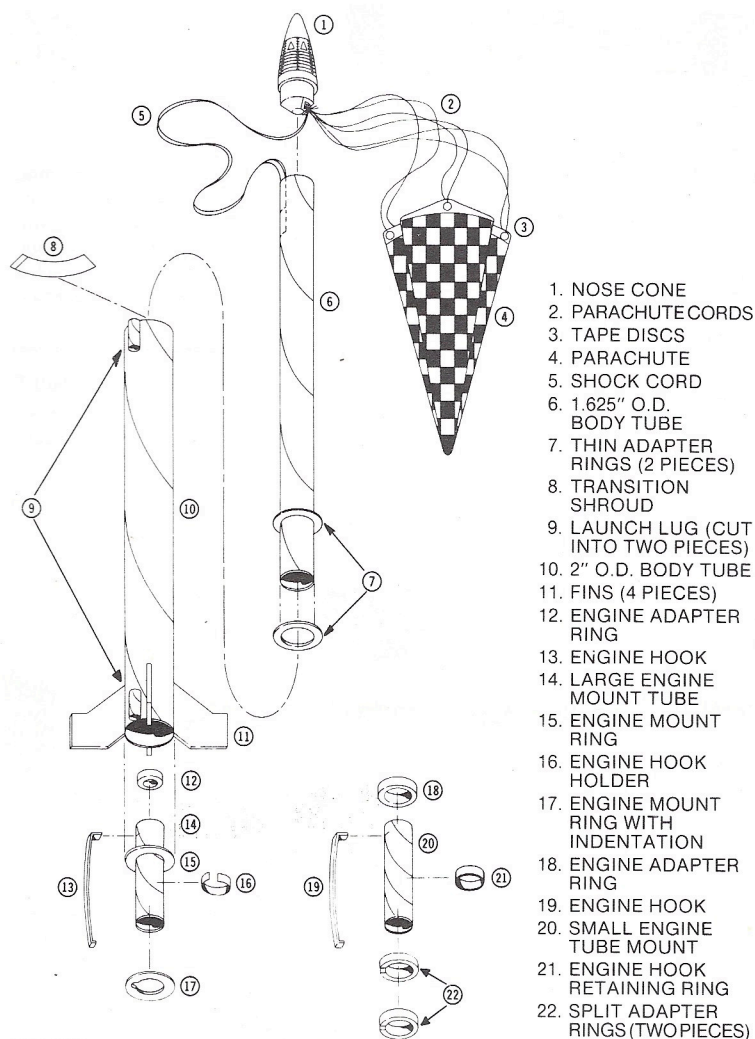
Decals remain one of MRC's assets. These kind are easy to apply without water. But you only get one chance to put them on right because they stick forever. Actually this kit has more decals than it needs. Although they look sharp individually I wouldn't bury the model with this many patterns.

Concerning the instructions, everything is told simply and completely. Unfortunately, there is only one complete illustration of this rocket and that is the exploded view shown here. Except for the face card I wouldn't even know what it looks like. Also, some of the construction steps use illustrations of other MRC rockets getting painted or assembled or such. That's no big deal, but there should be some illustrations for the

prep procedure to help novices, rather than saying things like, "the nose of the rocket should be pointing upwards." Maybe lawyers wrote it.

Aerodynamically, the overall design is safe and sound but aesthetically I wasn't excited. The fins try to look like a Redstone and the nose like a Mercury. However, with appropriate painting and conservative use of the decals I was able to get the Moonblaster looking better than I thought it would for a "semi-scale". After building so many competition models recently it was refreshing to put together a kit. It's a simple to build, fun to fly rocket.

This kit represents an advancement for MRC in many ways. The better tubes and a bigger model pose a challenge to another level of Estes kits. There are improvements to be made but such differences are vague and negligible to a young modeler browsing among the bag kits hanging in the hobby shop.



HUNTSVILLE AREA ROCKETRY ASSOCIATION
11108 Argent Drive Huntsville, AL 35803

See it at **NARAMI-30**

