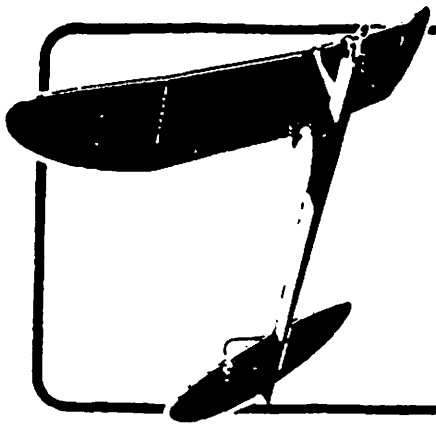


MINNEAPOLIS MODELER

Published six times per year by the Minneapolis Model Aero Club
1011 Highland Ave., So. St. Paul, Mn. 55075

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President	**Gary Oakins**	**429-3150**
Secretary	**Tony Saunderson**	
Treasurer	**Mike Spiess**	
Editor	**Dave Braun**	**457-2264**

No. 250 **May - June 1996**

Coming Events

May 5, 1996 Spring Meet -AA- Sanction # **60738** Hank Liljequist CD 545 -8178

1/2 A Gas	.020 Replica (12 Sec.)	Embryo Endurance
A Gas	Pee Wee 30	(Cat / HLG)
BCD Gas	Mulvihill	Junior Event
Nostalgia Gas (9Sec.)	P-30	

June 8, 1996 Mini FAI -A- Sanction # **60772** Mike Spiess CD (507) 931 - 1686

1/2 A Gas P - 30 A/1 Nordic Hand Launch Glider
To be flown in 5 one-hour rounds beginning at 10:00 am
Picnic and awards to follow final round

June 9, 1996 Spring Meet -AA- Sanction # **60777** Gary Oakins CD 429 - 3150

A Gas	Mulvihill	Junior Event	Coupe d' Hivre
BCD Gas		1.5X Bostonian	Catapult Glider
Nostalgia Gas (9 Sec.)		.020 Replica (12 sec.)	Embryo Endurance

The theme of this issue appears to be Revise, Correct, and Fine-Tune. First, Aaron Petersen has received some feedback on his rules for the proposed 1.5X Bostonian event A.K.A. Neopolitan. Flexible fellow that he is (rubber flyer y'know) some revisions have been made and are presented here. In the corrections dept., I, to my horror, discovered after publishing my 1.5X Bostonian ***Midnight Rider*** that the wings are too short by 3". If I may be presumptuous enough to think that some of you have built this model, I apologize. Those of you *planning* to build should add 1-1/2" to each wing panel. And finally, Bill Hoffman has fine tuned his article about fuel mixing to allow for more accurate oil ratios.

DB

"THE PREZ SAYS" or "OAKIE'S ORACLES"

It's newsletter time again and, believe it or not, I don't have much to say. As most of you know I always have some bit of wisdom to add to any conversation.

Before our good friend, Dell Marchant, moves out west I, on behalf of the club, want to extend 23 attaboys and many thank yous to Dell. Ever since he sold his bike shop some years back Dell's van has been our hobby shop on wheels. Whenever Dell has was with the members the "shop" was open. One Saturday morning after breakfast at Merwin's Drug Store parking lot, the police drove by a few times staring at us milling around Dell's van. I'm sure they thought we were dealing in dope (not butyrate). Thanks again Dell, we appreciate all you have done for the club over the years.

Lee Campbell of Campbell's Custom Kits gave the club a very large discount on a one time purchase of his kits. We have placed a large order for our prize committee. Thanks Lee for your support. Please support Lee and others in cottage industries who provide products for our hobby.

National Hobby Company is a new shop in Fridley, located by Moore Lake just north of I 694 on Hwy. 65. Jay Falk, the shop's owner, promises to order anything we need and will keep in stock those staples we desire, i.e. tissue, rubber, timers, etc. Stop in, introduce yourself to the owner, order what you need, and buy something. We need hobby shops, men! Support them.

The Sport Aviation Conference was held in Feb. '96. Our club's display along with those who flew models made MMAC one of the main attractions. Thanks to all members that helped especially those who flew models; Aaron, Craig Lamatsch Hank, and Oppe. Aaron's kits sold well as usual thanks to the flying demos of the Starbird and the Freebird. It was good exposure for the club. We showed our hobby to another segment of the aviation community, aircraft owners and pilots.

We met and talked to our new District VII AMA Vice President, Joe Hass. The first impression is he wants to work with all segments of the model aviation community.

A few of us received samples of silk from Jim Ladwig to try on a sample framework. It only comes in white but is much cheaper than Esaki silk. I dyed one sample, color looks great but will not shrink on model whether put on dry or wet. I'm trying dye in dope then on covered stab. We'll see!

Thought we might have a pot luck barbecue party this summer. Maybe on a Saturday prior to a contest. This would allow our out of town guests to attend. The Prez will host. What do you think?

Summer is here. Put those rubber models away and fire up the GASSERS!

See you at the meeting, sod farm, or both,
Gary

P.S. At the April meeting we discussed holding our summer meetings (June, July, and August) out at Hentges Sod Farm. We'll conduct a short business meeting followed by a flying session. What are your thoughts; come to the May meeting at the Donaldson Co. and we'll finalize our plans.

MINUTES OF THE MARCH, 1996 MEETING.

The meeting was called to order at 7:45 p.m.

Minutes of the February 1996 meeting were accepted as published in the March/April, 1996 issue of the bulletin.

The treasurer's report was submitted by Gary Oakins in the absence of Mike Spiess.

CORRESPONDENCE

Gary reported that Bob Oppegard had received a letter from Barry Taylor in Winnipeg. Barry announced that an indoor meet would be held there on April 20th.

OLD BUSINESS

A discussion of the club's efforts to secure contest prizes took place. Gary told of his visit to the National Hobby Company in Fridley. Gary and Denny Sussman reported that the club had received a positive response from the store.

Aaron Petersen gave a report on the Sport Aviation Conference held recently at the Minneapolis Convention Center. Aaron said that it was a success although it was geared mostly to full-size aviation. Aaron sold several of his model kits and made a donation to the club treasury.

Jim Ladwig reported that the indoor flying demonstration was a success.

Gary thanked those who volunteered their time at the conference.

Gary Fessler told of a recent talk he had with Neil Wienk, chief pilot of Helicopter Flight Inc. Mr. Wienk said that, occasionally, pilot trainees are sent out on search missions. He said he would be willing to send a student pilot out to help locate a lost model at a contest as part of a training exercise.

NEW BUSINESS

It was decided to hold the next meeting on April 12th rather than on Good Friday.

Al Muller presented a motion to revise the Power fly-off procedure at the outdoor contests. The motion was submitted as follows:

"When conditions make it necessary for the contest director to change the max times from 120 seconds to 90 seconds, motor runs shall be lowered by 2 seconds for all power events. If need for a fly-off arises, max times will remain at 90 seconds, but motor runs will be lowered by one more second. All additional flights will remain at this level until winner be declared."

The motion was seconded by Clyde White. The motion was voted on by the members, and passed with 7 in favor and 5 against.

No other new business was discussed, and the meeting was adjourned at 8:28 p.m.

SHOW and TELL

Jim Ladwig showed the members a covering material called China silk. It is heavier than Sig's Esaki silk, but considerably cheaper: $3.00 a square yard compared to $15.00.

The auction followed with Norm Janzen presiding as auctioneer.

MINUTES OF THE APRIL, 1996 MEETING.

The meeting was called to order at 8:15 p.m.

The minutes of the March 1996 meeting were read and accepted as read.

The treasurer's report was submitted by Mike Spiess.

CORRESPONDENCE

Gary informed the members that the club had received a letter from the San Diego Orbiteers announcing this years Jimmy Allen Air Races Postal Championship.

Gary said that he had talked to Barry Taylor in Winnipeg about the indoor meet scheduled there for April 20th, 1996.

Gary showed the members a list of kits from Camp-

Minutes of the April, 1996 Meeting (Continued).

bells. The small model kits are being offered at a significant discount on orders of 12 or more.

OLD BUSINESS

Gary asked Aaron Petersen to give the club an update on the MAC Fly-in to be held on May 18th and 19th at the Anoka County airport. Aaron said that he would conduct four building sessions for the kids over the two days. He asked for volunteers to assist with the building sessions. Gary said volunteers would be asked to sign up at the May meeting.

A discussion took place about a flying session to be held at the Metrodome. It will involve three different groups of kids, and is scheduled for April 24th and 25th.

Denny Sussman informed the members that the order for Campbells kits was ready to send in.

NEW BUSINESS

Gary asked for volunteers to help install bridges over the drainage ditches at the flying site on April 27th.

Gary Fessler made a suggestion to hold the club meetings at the flying site in June, July and August. A brief business meeting would take place followed by a flying session if weather permits. No action was taken on Gary's suggestion, and further discussion was postponed until the May meeting.

Gary Oakins discussed the idea of having a summer barbeque to be held on a contest weekend. Further discussion of Gary's idea will take place at a future meeting.

Don Monson advised the members that the seating arrangement in the meeting room must be left as found. The seating layout for meetings scheduled by the company have been disrupted by the members.

Jim Ladwig talked about China silk and informed the members that they could purchase the material at a discount price of $1.70 a square yard if a minimum of 50 yards was ordered by the club.

Gary made a motion to adjourn the meeting which was seconded by Denny Sussman. The meeting was adjourned at 9:10 p.m.

SHOW and TELL

Gary showed his new "Bump City", a Jorge Triana design. It is powered by a Russian AME .049 and weighs 7.4 ounces.

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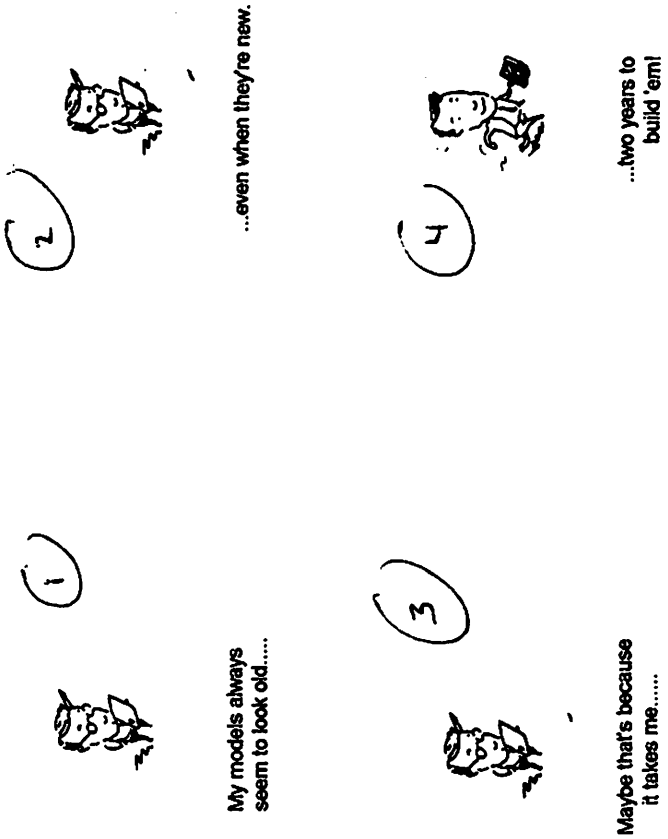


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MMAC Indoor Meet March 17, 1996

Congratulations to **Jorge Triana** and **Erick Sears** for winning the Indoor Season High Point awards.

Peanut Scale (8)

	Plane	Scale	Flight	Tot.
1. Jorge Triana	Maboussin	57	60	117
2. Aaron Petersen	Ord-Hume	52	54	106
3. Hank Liljequist	Fike	48	40	88
4. Jim Jorgensen	Farman	48	38	86
5. Leon Wolfe	Cougar	51	34	85
6. Don Berggren	Ganagobie	54	26	80

Walnut Scale (4)

1. Aaron Petersen	Brown B-2	58	74	132
2. Jorge Triana	MacBird	49	77	126
3. Hank Liljequist	Vagabond	51	43	94

Bostonian (6)

1. John O'Leary	78
2. Jorge Triana	55
Jim Jorgensen	55
4. Dell Marchant	54
5. Pete Owen	51
6. Hank Liljequist	50

No-Cal Scale (8)

1. John O'Leary	174
2. Aaron Petersen	158
3. Floyd Richards	137
4. Hank Liljequist	108
5. Don Berggren	93

Easy B (5)

1. Jorge Triana	6:02
2. Hank Liljequist	6:00
3. Mike Spiess	5:42
4. Floyd Richards	4:49
5. Jim Jorgensen	4:00

H L Glider (3)

1. Gary Crawford	57.1
2. Floyd Richards	36.6
3. Jeff Welliver	33.2

Phantom Flash (9)

1. Aaron Petersen	130
2. Floyd Richards	108
3. John O'Leary	96
4. Pete Owen	80
5. R. O'Connor	77
6. T. Saunderson	60
7. Hank Liljequist	52
8. Ken Mason	35

Penny Plane (4)

1. Jorge Triana	7:14
2. T. Saunderson	5:49
3. Jim Jorgensen	3:33
4. Pete Owen	3:28

Parlor Mite (6)

1. Jorge Triana	5:13
2. Floyd Richards	4:41
3. Don Berggren	3:49
4. Hank Liljequist	3:04
5. Leon Wolfe	2:52



1995 - 1996 Indoor Season Point Totals

	128
1. Jorge Triana	65
2. Aaron Petersen	58
3. Hank Liljequist	45
4. John O'Leary	43
5. Jim Jorgensen	30
6. Floyd Richards	26
7. Bill Thomas	26
Bob Oppegard	23
9. Jim Anderson	14
10. Mike Spiess	14
Dell Marchant	11
12. Tony Saunderson	10
13. Gary Crawford	8
14. Pete Owen	6
15. Don Berggren	4
16. Dale Mendenhall	2
17. Jeff Welliver	1
18. Terry Taylor	1
Steve Metz	1
Ken Mason	

Juniors

1. Erick Sears	7
2. Herby Fisher	2
3. Cody Spiess	1

** FUEL MIX **Revisited

This revision allows for a much more accurate oil percentages.

- - - BASIC FORMULA - - -

Total Mix. x Strength(%) = Amount of ingredient

Note: The following formulas use a unit (quantity) of one. Final results then can be changed to the desired units.

The formulas will allow the following changes: Nito, Oil, or Nitro & Oil. For an ingredient to remain constant use equal numbers, not zero's. If the oil % of the fuel is not known you will have to quess.

Find an example that fits your needs & just plug in all your particular amounts corresponding with the symbols & follow same the procedure.

Example: #1

Have 1 qt. 15% Fuel / 20% Oil

Want 35% Fuel/25% Oil, using 100% Nitro

	Quantity	Percent	Amt.	Symbol
Nitro/Fuel	1	15	0.15	NF
Nitro/Mix	X	35	0.35	NT
Oil/Fuel	1	20	0.2	OF
Oil/Mix	Y	25	0.25	OT

$$X=\frac{((1-OT)\times(NT-NF))+(NT\times(OT-OF))}{((1-OT)\times(1-NT))-(NT\times OT)}=0.4188$$

$$Y = (OT-OF) + (OT \times X) + (1-OT) = 0.2063 \text{ qt.}$$

Check: Str.(%) = Amt. Ingredient + Total Mix

Nitro = (NF + X) + (1 + X +Y))
= 0.5688 + 1.625 = **35%**

Oil = (OF + Y) + (1 + X + Y)
= (0.2 + 0.2063) + 1.625 = **25%**

* * * * * * * * * * *

Example: #2

Have 1 qt. 35% Fuel/20% Oil --

Want 15% Fuel/25% Oil, using 100% Alky.

	Quantity	Percent	Amt.	Symbol
Nitro/Fuel	1	35	0.35	NF
Nitro/Mix		15	0.15	NT
Alky/Fuel		100-NF-OF	0.45	AF
Alky/Mix	X	AF+NF-NT-OT+OF	0.60	AT
Oil/Fuel		20	0.20	OF
Oil/Mix	Y	25	0.25	OT

$$X=\frac{((1-OT)\times(AT-AF))+((AT\times(OT-OF))}{((1-OT)\times(1-AT))-(AT\times OT)}=0.95$$

$$Y=((OT-OF)+(OT\times X))+(1-OT)$$
$$=((.25-.2)+(.25\times.95))+(1-.25)=0.3833 \text{ qt.}$$

0.3833 X 32 = 12.3 ozs.

Check: Str.(%) = Amt. Ingredient + Total Mix

Nitro = NF + (1 + X + Y)
= 0.35 + (1 + 0.95 + 0.3833) = **15%**

Oil = (OF + Y) + (1 + X + Y)
= (0.2 +0.3833) + (1 +0.95 +0.3833) = **25%**

* * * * * * * * * * *

Example: #3

Have 1 qt. 10% Fuel/20% Oil -- Want 15% / 25% Oil, using 35% Fuel./ 20% Oil

	Quantity	Pecent	Amt.	Symbol
Fuel/Nitro	1	10	0.10	NF
Nitro/	X	35	0.35	N
Fuel/Nitrd	+X	15	0.15	NT
Oil/Fuel	Y	20	0.20	OF
Oil/Mix	1+X+Y	25	0.25	OT

$$X=\frac{((1-OT)\times(NT-NF))+(NT\times(OT-OF))}{((1-OT)\times(N-NT))-(NT\times(OT-OF))}=0.32qt$$

$$\text{Oil} = Y = \frac{(OT-OF)+((OT-OF)\times X)}{1-OT}=0.09 \text{ qt.}$$

Check: Str.(%) = Amt. Ingredient + Total Mix

Nitro=(NF+(N×X))+(1+X + Y)
=(0.1+(.35 ×0.32))+(1 + .32 + 0.09)=**15%**

Oil=(OF+(OF×X))+(1+X+Y)
=(.2+(.2×.32)+.09)+(1 +.32 + 0.09)=**25%**

* * * * * * * * * * *

Example: #4

Add 1 qt., 15% Fuel to 1 pt., 35% Fuel = What? %

	Quantity	Percent	Amt. Ingt.
Fuel/Nitro	1 quart	15	1 x 0.15
Fuel/Nitro	1 pint	35	0.5 x 0.35
Total Mix	1.5 qt.	X	1.5 x X

(1 x 0.15) + (0.5 x 0.35) = 1.5 x X

0.15 + 0.175 = 1.5X

0.325 = 1.5X

0.325 ÷ 1.5 = X = **21⅞%**

* * * * * * * * * * *

Example #5

Want 1 quart (32 ozs.) of 35% Fuel & 25% Oil

Ingnt	Quantity	Strength	Amount
Nitro	32 ozs.	.35	**11.2 ozs.**
Oil	32	.25	**8.0 ozs.**
Alky	32-11.2-8	1.0	**12.8 ozs.**
		Total:	32.0 ozs.

Check: Str.(%) = Amt. Nitro + Total Mix

= 11.2 ÷ 32 = **35%**

* * * * * * * * * * *

- - - CONSTANTS - - -

16 ounces = 1 Pint

2 Pints = 1 Quart

4 Quarts = 1 Gallon

1 Quart = 0.9463 Liters

1 ounce = 1.805 cu inches

* * * * * * * * * * *

MINNEAPOLITAN update

by Aaron Petersen

Since publishing a set of rules for the proposed new **MINNEAPOLITAN** event in the last newsletter, I've gotten quite a bit of feedback from near and far -- most of it enthusiastically positive, and some with valid and constructive criticism. Also, I finally gritted my teeth and took a good look at the AMA Bostonian rules. The upshot is that herewith I offer a refined and (I hope) FINAL version of the rules for this event. Let the ships land where they may.

---

1. Rubber power only. Basic construction: balsa wood and tissue paper. Fuselage or nacelle longerons must support the forces of the enclosed motor(s). Solid or hollow motorstick(s) with or without a "cargo cabin" structure added on is (are) unacceptable.

2. Maximum wing chord = 4.5" (measured parallel to line of flight). Maximum projected wingspan = 24". The model may have any number of wings, but none may exceed the above dimensions.

3. Maximum diameter of propeller(s) = 9". Fixed blades only, though pitch angle may be adjusted (and locked in) prior to flight. No folders.

4. Maximum length of airframe without propeller(s) = 21". But dethermalizer snuffer tube, fuse, hooks, etc. may extend beyond this dimension.

5. The fuselage structure(s) must contain at least one box with minimum dimensions of 2.25" X 3.75" X 4.5". This box must be enclosed within the structure and must be covered so as to restrict free air movement through the box. Normal sag of the framework between supports caused by the tension of the covering will not be considered a violation of this rule.

6. Minimum weight without rubber motor(s) = 50 grams.

7. The model must have fixed functional landing gear, with at least 2 rotating wheels with a minimum diameter of 1.125". (The model must be capable of unassisted ROG takeoffs.)

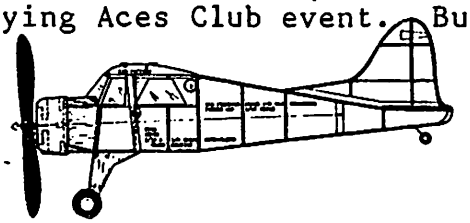
8. The model must have a transparent windshield and at least 2 transparent side windows of at least 2.25 sq. in. area each. An open cockpit design need not have side windows, but must still have a windshield of at least 2.25 sq. in. area.

9. Motor braiding is acceptable; spring/stop tensioning is not.

10. A maximum of 2 bendable flight adjustment tabs may be added and may extend beyond legal dimensions. Maximum length of each tab = 3", and maximum extended area of each tab = one sq. in.

11. Flight rules: Unassisted ROG when practical, hand launch when not. Unlimited attempts for 3 official flights. An attempt is 20 seconds or less. Two-minute max. Score is total of 3 official flights. Flyoffs: increase max time by 30 seconds per round. All flyoff flights are official.

Note: We have approval from FAC-GHQ to count **MINNEAPOLITAN** as a Red Pine Raiders Flying Aces Club event. Build! Fly! Win!



5354 Newton Avenue South
Minneapolis, MN 55419
February 5, 1996

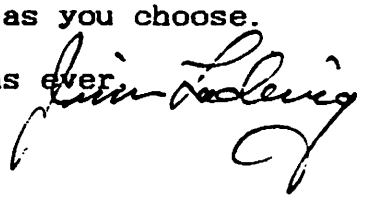
Mr. Dave Braun
1011 Highland Avenue
So. St. Paul, MN 55075

Dear Dave:

I expect you will be publishing a newsletter for MMAC in the near future. Here are a couple of items I found in the January/February 1996 issue of SAM SPEAKS that I thought might be of interest to some of the MMAC members.

Feel free to retype these or simply cut and paste them, as you choose.

Yours as ever,



AVAILABILITY OF CHINESE SILK

A 100% China Silk is now available from an importer in California. The lighter weights are available in white only, but 40 colors are offered.

- "Paj" Light China Silk, 36" wide, $3.15/yd. (Also reported as $3.00/yd and $2.85/yd for orders over 10 yards.) Stock #21F.
- China Silk, natural white, 45" wide, $4.75/yd. Stock #21G.
- [Heavier] China Silk, white, 45" wide, $5.80/yd. Stock #26A. Also available in 40 colors for $7.30/yd.

Weight, in mommes, of the above silks are 5mm, 6mm and 8mm, respectively. Thai's silk sample kit costs $20 and contains swatches from their inventory of 450 products. An order within 30 days will result in a rebate of $18 and you keep the samples. Or return the sample kit within 30 days for a refund of $30. The importer is:

Thai Silks
252 State Street
Los Altos, CA 94022
(800) 722-SILK

SPECIAL RUN OF NOS LEGAL COX .051 MEDALLION ENGINES

Engines will be $30 each, plus $3 each shipping and handling. To reserve an engine, send no money now, but send a self-addressed stamped postcard indicating the number of engines you will be purchasing to:

Bob Beecroft
1014 Daisy Court
Carlsbad, CA 92009-4846

Send no money now, when the engines are available your postcard will be returned to you. Payment due before shipment.

NOSTALGIA AT THE NATS

JULY 22-26 1996

8:00 AM TO 5:00 AM DAILY

AMA NATIONAL FLYING SITE, MUNCIE, INDIANA

CATEGORY III
SANCTION # PENDING

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MARK X FOR EACH EVENT TO BE ENTERED

MONDAY 22 JULY	TUESDAY 23 JULY	WEDNESDAY 24 JULY
☐ C NOSGAS *	☐ B NOSGAS *	☐ A NOSGAS *
☐ IGNITION (SML & LG)*	☐ JIMMY ALLEN EVENT	☐ PAA LOAD (COMBINED)
	☐ JETEX	☐ EARLY ½A NOSGAS

THURSDAY 25 JULY		FRIDAY 26 JULY
½A NOSGAS *	* = NOSGAS	¼A NOSGAS *
KORDA 39 WAKEFIELD	CHAMPIONSHIP EVENTS	PEE WEE 30

All events are to be JSO, special awards to be given to Juniors and Seniors.
Awards to three places minium, up to 5 in high entry events.

EARLY ENTRY DEADLINE: MUST BE POST MARKED BY 15 JULY 1996.

$10.00 First event (Open only)_____$10.00
$ 3.00 Each additional event How many_____$_____
$ 1.00 Per event, Juniors and Seniors only How many_____$_____
NFFS BANQUET ON THURSDAY NITE 7:00 PM
Of adults_____X $20.00_____= $_____

Send check or money order and please make it payable to NFFS !!!!!!!!!!
To: Abram Van Dover 112 Tillerson Dr Newport News, Va 23602

TOTAL AMOUNT ENCLOSED = $_____

MMAC OUTDOOR CAT. III HIGH TIMES since 1980

½A GAS	JORGE TRIANA	597	6/2/85
A GAS	AL MULLER	600	10/8/95
BCD GAS	GARY OAKINS	600	7/15/90
NOSTALGIA	AL MULLER	549	8/13/89
.020 REPLICA	DELL MARCHANT	456	10/8/95
PEE WEE 30	HERM FESSLER	2305	9/10/89
CO_2/ELEC.	AARON PETERSEN	347	7/18/93
MULVIHILL	DAVE BRAUN	1072	7/15/90
COUPE	DAVE BRAUN	653	9/9/90
P-30	DAVE EDMONSON	497	9/13/87
EMBRYO ENDURANCE	AARON PETERSEN	365	9/10/95
OLD TIME RUBBER	JACK O'LEARY	734	7/15/90
MMAC SCALE	AARON PETERSEN	248	8/14/88
A/1 NORDIC	DAVE BRAUN	589	6/5/88
A/2 NORDIC	JORGE TRIANA	832	6/26/88
A/1-A/2 COMB.	TERRY TAYLOR	350	10/10/82
HLG	TIM JOHNSON	533	10/12/80
HH CAT. GLIDER	HERM FESSLER	249	10/8/95



OK Boys, there they are!
Now go get 'em!!