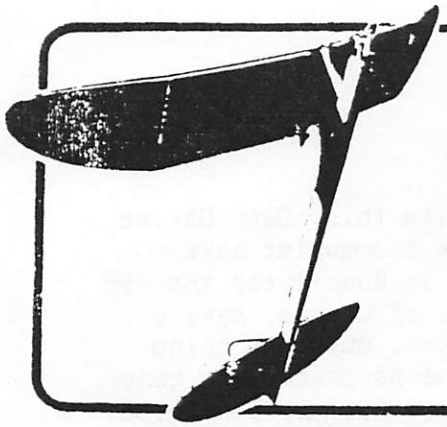


MINNEAPOLIS MODELER

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No. 245 **July - August 1995**

Coming Events

July 16, 1995 Summer Meet -AA- Sanction # **51003** Don Monson CD 457 - 2321

1/2 A Gas	Mulvihill	Coupe d' Hivre
A Gas	A/2 Nordic	Hand Launch Glider
BCD Gas	P - 30	Pee Wee 30
CO2 - Mini 6	Embryo Endurance	OT Rubber (<'46)
Nostalgia Gas (9 Sec.)	Junior Event	

August 6, 1995 Almost Silent -AA- Sanction # **50956** Gary Oakins CD 429 - 3150

Open Power	Coupe d' Hivre	Catapult Glider
Nostalgia Gas (9Sec.)	P - 30	Hand Launch Glider
.020 Replica (12 Sec.)	Embryo Endurance	Mulvihill
MMAC Scale	Junior Event	

Okay, Okay.... I know the last issue was a real ho-hummer what with the inclusion of the outdoor contest schedule and the club roster. The worst of it is, Aaron Petersen had plans for his own design legal eagle, The ***Shyster Skyster*** , and an accompanying article all ready to go but there was simply no room without going over our postal weight limit. Aaron was gracious enough to allow postponement until this issue and they are included for your enjoyment this time around. By the way, I saw the Shyster Skyster fly at the Metro-Dome and, like all of Aaron's designs, it's a winner! A little traveling music, Maestro ...

DB

O'Leary Ink.

Basking in the glow of a mid-summer's eve sunset. the wind having diminished to a passive five mph or so. about ten of us were gathered for the usual hanger session following the June 11th contest. Talk ranged from recounting the heroics of the day's events to getting the straight skinny from Herman F.. our club guru on matters aerodynamic.Gentle inquiries about the health and well-being of each other's families and former club members updated our concerns for one another. The aroma of sizzling brats wafted past as we nursed a can of the amber elixir.The turf on Hentge's sod farm had achieved that rich. deep shade of green that arrives in mid-June and dazzles the senses.The temperature was a balmy 75.

Aaron Petersen and I were flying "fun" type planes.he one of his world beater Embryos. while I flew my trusty Vought "Kingfisher" No-cal: both of us getting very respectable flights though the retrieve only was a matter of fifty yards or so. Outstanding!

It occurred to me that this experience delineated a "golden moment". a moment that said much about the nature of our club.our brotherhood and our respect each other's craftsmanship and creativity.

It may be trite to echo the sentiments proclaimed in a TV beer commercial by some jock type in a flannel shirt. but " Sometimes it doesn't get any better than this."

As I write this. Gary Oakins and Dick Bloomquist have arrived in Muncie for the '95 U.S.O.C. FF Champs. Have a great week. guys and bring back some hardware. and some tales. truthful or otherwise.

This year marks my 20th year of consectutive membership in the club. I've learned much and have had many memorable moments. The club has grown from 20 or so members in the mid-70's to the 60 plus we now enjoy. I'm not as concerned as some about the prophesied demise of free flight. Thanks to Aaron P. and many other service oriented members our "junior problem" may not be a future problem.

I attribute much of the growth of the club to our indoor program. The indoor contests provide an opportunity for interested visitors to kibitz. ask questions. and put their toe in the water. free-flight wise. Too often at our outdoor contests we are too unavailable.too preoccupied or we are mucking about in a swamp. downwind.So.be kind to strangers especially at our indoor contests.

In closing. speaking for the club. our heartfelt thanks to Don Spehn for serving so ably as our PREZ for so many years. Even though you have moved sixty or so miles up the pike. Don. I hope we'll be seeing you at all of our contests. flying "Old Blue" to glory.

See ya downwind!!

J. O.

Meeting Minutes: 5 May 1995 (Reported by Acting Secretary A. Petersen)

Place: Donaldson Co. Time: 8:10 p.m. Present: 28

Treasurer's Report: The bills are paid, and there is money left over.

Here's What Happened: Mr. O'Leary said he wished to make it clear that he was elected "only to serve out the term" of departing Pres. Spehn. He also quoted from a letter from the Principal of Mpls. Jr. Academy thanking us (Gary Oakins, Mike Spiess, and Gary Crawford) for the replacement of missing ceiling tiles in the academy gym. The Principal also expressed interest in maintaining their relationship with us. It appears we are "go" for another idoor season at the academy, and Mr. O'Leary suggested we set the 1995-96 schedule at the next meeting. The President also announced that Mr. Roberts has resigned as MMAC Secretary. Jim Ladwig announced that Mr. Wykoff (No-cal plans, lozenge tissue) is out of business for health reasons. Mr. Oakins reminded us that we can hand out Sod Farm Guidelines flyers to freelance RC types who show up at the field and exhibit detrimental behavior. The Acting Secretary reported on plans for Aviation Days at Anoka County Airport on 20-21 May. He, Jim Ladwig, Jeff Lange, and Peter Owen have been working over the past six weeks to prepare 200 simple rubber power foam "kits" to be built and flown at the event by youngsters from the Blaine Schools DARE program. He requested all available assistance from members in working with the kids on 20 May, from 9-4. The Prize Committee was given a firm round of applause for its fine efforts during the past year. Denny Sussman thanked all those who assisted him. Jim Ladwig was elected Secretary by unanimous vote. Hank Liljequist brought some old magazines for sale, proceeds to the club. Duane McDonnell, a retired teacher, was introduced as our newest member. Keith Billett checked in with us once again. Mr. Oakins organized a work party to install/repair bridges at the field the next day. Mr. O'Leary suggested that if anyone wants to start a new contest event, please consider (plan on) funding it as well, at least to start with. The idea met with favor. Denny Sussman inquired whether anyone wanted a new club jacket -- they are still obtainable.

Show & Tell: Mike Spiess showed off his new blue and yellow outdoor rubber fleet -- a Gollywock, an original P-30, a Coupe built from an MAL kit, and an original Embryo. All nicely built, and all obvious threats to the competition. HankLiljequist showed us an Ephemeris high-thrust ½A design (1963) reduced by 10%. Red and blue, a very consistent flier when he had one some years back. Gary Oakins displayed a gorgeous rendition of the ever-exciting CIVY BOY 61. Red and yellow silk. 1946-1953 NosGas design, 34 oz. with a Fox .29X. He is selling tickets for the Maiden Flight. Ted Wlazlo showed us an original ½A design, red, yellow,and white, with geodesic surfaces, carbon fiber trailing edges. Very neat and attractive. John Fogg showed up with yet another wonder -- bare bones of a 36" Cessna 172 based on a Guillow's plan for a geared-down Kenway mini-electric. Projected total wt.: 42 gm! A fantastic effort so far, mostly 1/32 balsa. Tim Johnson displayed his newest (original) Kevorkian design, the Junior K. ½A size, with fishrod body, homemade VIT, covered with clear SEALAMIN. It looks quick.

Note: Thanks to those who did help at Aviation Days on 20 May: Jim Ladwig, Jack O'Leary, Don Spehn, Don Patterson, Gary Fessler, Herman Fessler, Harry Gerrish, Craig Lamatsch, Duane McDonnell, Bob Woodhouse, and Phil Vogt. Apologies to anyone I missed. Peter Owen and Jeff Lange helped prepare the 200 kits, as well. Well done, guys! It was a worthwhile effort, benefiting the community (Blaine) in which we fly.

MEETING MINUTES

MINNEAPOLIS MODEL AERO CLUB

JUNE 2, 1995 DONALDSON COMPANY, INC.

Called to order at 8:10 P.M. by Interim President John O'Leary.

TREASURER'S REPORT- Treasurer not present.

SECRETARY'S REPORT- Minutes of May meeting read aloud by Aaron Petersen.

CORRESPONDENCE- None presented.

OLD BUSINESS-
Aaron Petersen reported that the model activity at the Discover Aviation event at Anoka County Airport on May 20 & 21 was reasonably successful, but needs to be better organized next year. Over 200 models were built and flown in the two days. Dr. Pat Redig of the Raptor Center was the driving force behind the program, and his two teen-age sons helped in running it.

MMAC members participating in the Discover Aviation model project were: Gary Fessler, Herm Fessler, Jim Ladwig, Craig Lamatsch, Jeff Lange, Duane McDonnell, Pete Owen, Don Patterson, Aaron Petersen and Don Spehn.

Various members told unbelievable stories of incredible encounters between model airplanes and wildlife.

NEW BUSINESS-
MINI-FAI MEET, Saturday, June 10-
CD Gary Oakins said that a horn blast will announce rounds each hour.
Denny Sussman showed the prize plaques at this meeting.
The Picnic will be held at 3:00.
Denny Sussman will bring the meat, members to bring their beverages.
Terry Taylor and others will bring grilles.
Gary Oakins moved that Gary Crawford and Gary Fessler provide rest rooms for the ladies attending the Picnic.

SPRING MEET, Sunday, June 11- Mike Spiess is CD.

SUGGESTION BOX CORNER-
Interim President O'Leary solicited gripes from the members present concerning prizes or anything else, but received no response.

INDOOR FLYING SEASON-
Aaron Petersen moved and Gary Oakins seconded that a contest date in November (in addition to the Trim Session) should replace the April contest.
Interim President O'Leary is trying to contact the Junior Academy with regard to the winter schedule for indoor flying.

Dale Mendenhall moved to adjourn at 8:30 P.M.

SHOW & TELL-
Keith Billet brought photographs of Walt and Richard Billet, his great-grandfather and grandfather, and of Keith's father and uncle as boys holding their model airplanes. Some photographs were from 1941, others from the 1964 Nats.

Respectfully submitted by Jim Ladwig, Interim Secretary.

MMAC Spring Meet - May 21, 1995

Mulvihill (6)

1. Aaron Petersen	120	120	120	180	**540**
2. John O'Leary	120	120	120		**360**
3. Sid Jepson	75	120	49		**244**
4. Bob Kumferman	84	42	59		**185**

P-30 (13)

1. Bill Rogers	120	120	120	**360**
2. Herman Fessler	110	120	99	**329**
3. Bill Roush	106	84	103	**293**
4. Gary Oakins	92	57	120	**269**
5. Don Spehn	72	120	66	**258**
6. Joe Huettl	87	100	48	**235**
7. Jim Jorgensen	47	120	42	**209**
8. Terry Taylor	49	75	65	**189**
9. Hank Liljequist	22	111	50	**183**
10. Aaron Petersen	43	45	63	**151**
11. Ted Wlazlo	45			**45**
12. Bob Kumferman	37			**37**

1/2 A Gas (12)

1. Jorge Triana	120	120	105	**345**
2. Dennis Sussman	120	107	117	**344**
3. Gary Oakins	120	102	88	**310**
4. Terry Taylor	45	120	120	**285**
5. Hank Liljequist	120	28	59	**207**
6. Jim Jorgensen	66	120	63	**139**
7. Gary Fessler	84			

A Gas (9)

1. Don Spehn	120	112	120	**352**
2. Gary Oakins	120	76	120	**316**
3. Hank Liljequist	43	95		**138**
4. Dennis Sussman	120			**120**
5. Terry Taylor	110			**110**

I kid you not!

The worlds' best surface for cutting out balsa parts with a modeling knife is simply a small sheet of plexi-glass. It's hard enough and tough enough to be both durable and unbreakable. It doesn't try to steer the blade, yet it's not so hard that it doesn't allow for "feel." Plus, it gets better the more you use it. If you start with a new piece, I recommend that you dull the surface with some coarse sandpaper to eliminate any tendency for blade steering which I mentioned earlier. A long narrow piece will work well with your ***Master Airscrew*** balsa stripper.

DB

Embryo Endurance (6)

1. Herman Fessler	120	120	40	+9	**289**
2. Aaron Petersen	49	101	48	+5	**203**
3. Don Berrgren	39	31		+6	**76**
4. Bill Rogers	64			+9	**73**
5. Joe Huettl	13	34		+9	**56**

BCD Gas (5)

1. Dick Bloomquist	120	87	120	**327**
Don Spehn	109	120	98	**327**
3. Al Muller	120	120	72	**312**
4. Gary Oakins	91	120	71	**282**

Nostalgia Gas (5)

1. Al Muller	120	120	108	**348**
2. Don Spehn	96	120	120	**336**
3. Hank Liljequist	120	88	115	**318**
4. Dick Bloomquist	120	84	96	**300**

.020 Replica (4)

1. Jorge Triana	120	77	120	**317**
2. Bill Roush	54	120		**174**

HLG (5)

1. Dick Diers	120	120	89	**329**
2. Garrett Crawford	43	35	41	**119**
3. Gary Crawford	53	32	31	**116**
4. Joe Huettl	34	28	34	**97**
5. Bill Rogers	20	21	24	**65**

A/1 - A/2 Nordic (3)

1. Jorge Triana	70	120		**190**
2. Herman Fessler	55	64	57	**176**
3. Don Berrgren	25	36	01	**62**

Junior Event (2)

1. Jason Fessler	34	48	63	**145**
2. Megan Fessler	8	5	7	**20**

Contest High Points to **Don Spehn** with 27

Mini FAI - June 10, 1995

We really hit the trifecta with this one; cold, wind, and rain! Maxes were necessarily shortened and participation was way down. Congrats to the winners and all who dared to fly!

Contest High Points to **Joe Huettl** with 15

1/2 A Gas (5)

1. Gary Oakins	78	70	60	57	75	**340**
2. Dennis Sussman	51	90	63	61	74	**339**
3. Don Spehn	-	74	90	55	57	**276**
4. Tim Johnson	13					**13**

P-30 (8)

1. Aaron Petersen	90	53	71	90	75	**379**
2. Joe Huettl	57	72	90	67	57	**343**
3. Henry Liljequist	57	53	40	55	37	**324**
4. Gary Oakins	57	90	88	50	-	**285**
5. Mike Spiess	51	81	5	72	-	**211**
6. Herman Fessler	33	55	61	36	16	**191**
7. Bill Rogers	49	-	90	-	-	**139**
8. Ted Wlazlo	26	59	10	26	-	**117**

Hand Launched Glider (5)

1. Joe Huettl	4	27	54	32	42	**159**
2. Bill Rogers	33	21	22	21	-	**97**
3. Gary Crawford	15	7	21	21	4	**53**
4. Tim Johnson	2	9	17	-	20	**48**
5. Garrett Crawford	3	18	12	-	-	**33**

A/1 Nordic (1) !

1. Herman Fessler	83	90	36	69	66	**344**

" Why I Love Free Flight" - A Short Editorial



I saw a kid on a skateboard the other day...



He had on a helmet, knee pads, gloves...



elbow pads, and a mouth guard.



His T-shirt said, ***" No Fear"***

Spring Meet - June 11, 1995

Mulvihill (4)

1. Aaron Petersen	120	120	120	180	64	604
2. John O'Leary	120	120	120	180		540
3. Dave Braun	120	64	31			215

Embryo Endurance (7)

				Bonus		
1. Aaron Petersen	120	106	120	+5		351
2. Herman Fessler	120	80	81	+9		290
3. Mike Spiess	54	120	63	+5		242
4. Joe Huettl	45	42	57	+9		144
5. Jorge Triana	28	18	76	+5		127

A Gas (10)

1. Al Muller	120	120	120	71	437
2. Gary Crawford	120	120	120	32	392
3. Don Spehn	120	120	120		
4. Jorge Triana	112	120	120		352
5. Dennis Sussman	86	81	120		287
6. Terry Taylor	120	120			240
7. Dell Marchant	52	63	86		201
8. Hank Liljequist	60	120			180
9. Gary Oakins	109				109

BCD Gas (5)

1. Gary Oakins	120	120	120	360
2. Don Spehn	120	116	120	356
3. Al Muller	120	98	51	261
4. Jorge Triana	82			82
5. Gary Crawford	69			69

Junior Event (1)

1. Jason Fessler	8	20	8	**36**

Contest High Points to **Al Muller** with 27

Coupe D'Hivre (7)

1. Herman Fessler	120	100	120	340
2. Hank Liljequist	120	115	86	321
3. Mike Spiess	120	90	91	301
4. Dave Braun	69	94	120	283
5. Aaron Petersen	66	108	63	237
6. Joe Huettl	30	44	120	197
7. Dick Diers	42			42

MMAC Scale (3)

1. Aaron Petersen	69	46	75	190
2. Jorge Triana	37	74		111

Catapult Glider (8)

1. Herman Fessler	46	62	120	228
2. Dick Diers	42	120	51	213
3. Gary Crawford	21	33	32	96
4. Joe Huettl	24	35	24	83
5. Dell Marchant	19	28	26	73
6. Jason Fessler	20	15	05	40
7. Dave Braun	03			03

.020 Replica (5)

1. Jorge Triana	120	120	106	346
2. Gary Oakins	55	120	62	237
3. Don Spehn	45			45

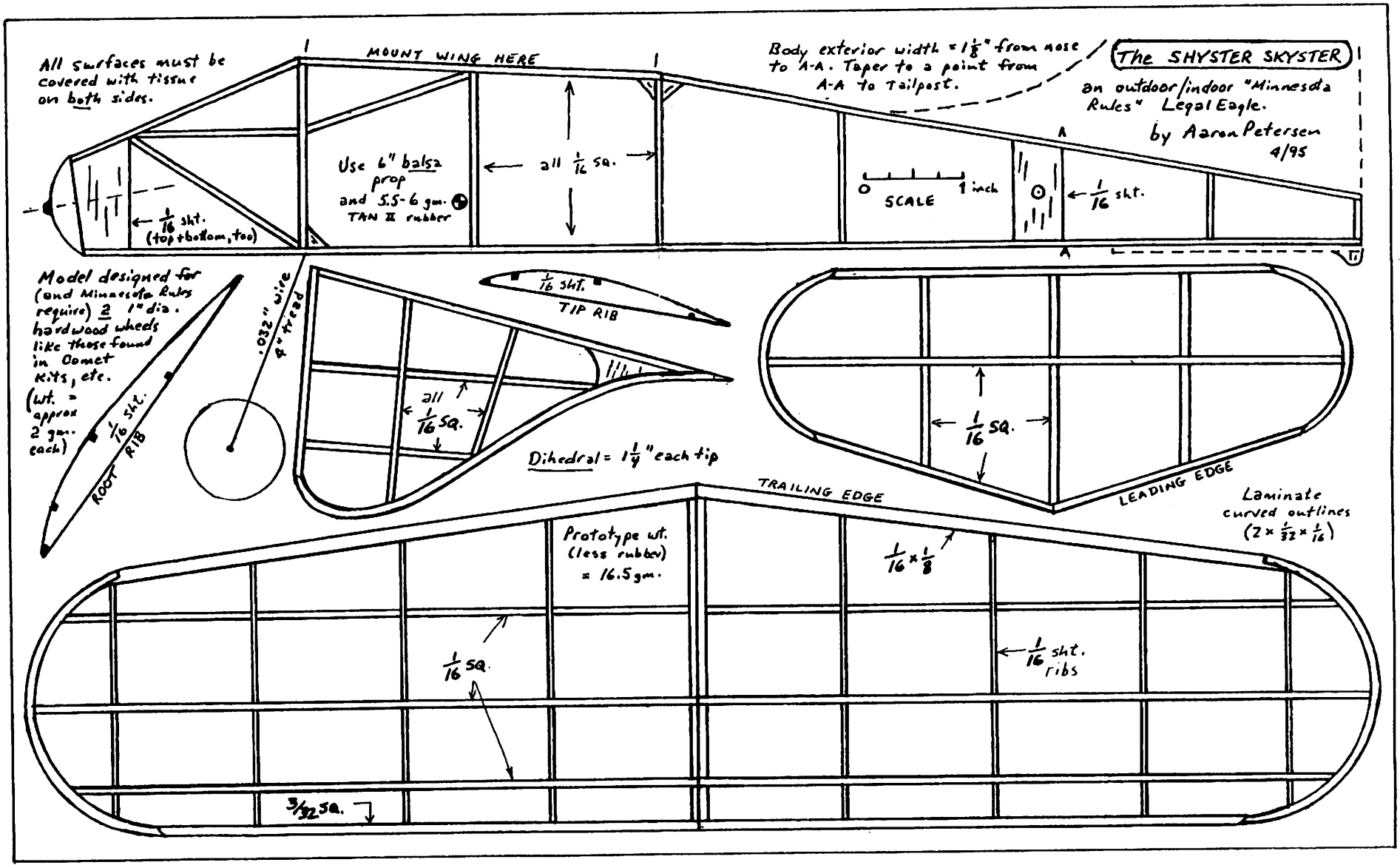
Nostalgia Gas (5)

1. Al Muller	120	120	120	360
2. Dennis Sussman	120	113	67	300
3. Don Spehn	67	112	120	299
4. Hank Liljequist	79	120	74	273

1995 Outdoor Season Points

1. Herman Fessler	54	11. Gary Crawford	23	21. Don Berggren	4
2. Aaron Petersen	53	12. Dick Diers	19	22. Bob Kumferman	3
3. Don Spehn	50	13. Terry Taylor	18	23. Ted Wlazlo	3
4. Gary Oakins	49	14. Mike Spiess	14	24. Tim Johnson	3
5. Al Muller	40	15. John O'Leary	13	25. Gary Fessler	1
6. Jorge Triana	39	16. Bill Roush	12		
7. Joe Huettl	34	17. Jim Jorgensen	10	***Juniors***	
8. Henry Liljequist	32	18. Dave Braun	8		
9. Bill Rogers	26	19. Dell Marchant	6	1. Jason Fessler	3
10. Dennis Sussman	24	20. Garrett Crawford	5	2. Megan Fessler	1

For a full-size plan, enlarge this page 143%



Legal Eagles

(article by Aaron Petersen)

This new event comes from the fertile mind of Dave Stott, who brought you all Peanut Scale, and the Miami Indoor Air craft Model Association (MIAMA)

Drawing Requirements

1. Drawings must fit on one side of one sheet of legal size (8.5 x 14) paper.
2. No component parts of drawing may be superimposed or overlap another and must clear one another and the edge of the paper by at least 1/8 inch.
3. Wing (s) and stabilizer must be drawn full span, tip to tip.
4. Fin(s) may be drawn where space allows and not necessarily attached to the side view.
5. Landing gear must be drawn in its place on the side view showing its full length.
6. No top or front view is required.
7. Drawing must be presented to CD on demand.

Design Requirements

1. Smallest wood size to be 1/16 square inch.
2. Fuselage volume must contain a cube 1 x 1.5 x 3 inches.
3. Fuselage must have a cabin or open cockpit with a raised windshield of at least 30°. Cockpit must be actually open with a headrest or canopy.
4. Flight surfaces: leading and trailing edges can not parallel each other.
5. Tip outlines must have no straight lines except for stabilizer where a twin fin is used.
6. If twin fins or two wings are used in the design, parts may be built in duplicate over the same drawing.
7. Japanese tissue covering. No ultra light covering to be used. Flight surfaces may be single or double covered.
8. Landing gear must use at least one 1" hardwood wheel.
9. Use of motor sticks or tubes is okay.

Flying

1. Models must ROG from ground, ice, table top, floor, or any solid place designated by the CD on contest day.
2. Highest total of 3 flights wins. Delay timing at CD discretion.

Yo, rib-slicers! Here is a model type that is right up my alley! These rules appeared in the Feb 95 NFFS Free Flight Digest, also in the Apr 95 Flying Models. Dave "VTO" Linstrum published two very clever plans in the Digest for indoor Legal Eagles that no doubt fly really well. Ingenious efforts.

I wish to put forth some alternate rules, mainly to make Legal Eagles viable outdoors. When Ed Whitten invented the Bostonian long ago, it was strictly an indoor type with a minimum weight of 7 grams. Then after a time, a set of "West Coast Rules" appeared, strengthening the model and bringing the minimum weight up to 14 grams. I propose for the Legal Eagle an alternate set of "Minnesota Rules." Here are my suggested changes:

Design Requirements

7. Japanese tissue covering. No ultra light covering to be used. Flight surfaces must be double covered.
8. Landing gear must use two 1" (or larger) unmodified commercial hardwood wheels of the type furnished in Comet, Guillow's kits, etc. (Avg. wt. = 2 grams each.)
9. Fuselage must be built up and contain the rubber motor. No motorsticks or tubes allowed.

Flying

2. Indoor: MMAC Bostonian rules (single best flight of 3 official).
Outdoor: MMAC Embryo rules (2-min. max, but no bonus points).

(It seems to me that Legal Eagles, even more than Bostonians, would be ideal for some sort of "charisma" judging. But save that argument for another time.)

Why the changes? First of all, the double-covering requirement gets us away from the flimsy indoor-type of model and into the great outdoors, should we desire. The commercial hardwood "kit-type" 2-wheel requirement keeps things simple and gets away from weird landing gears that (perhaps) go against Mr. Stott's original intent. It also injects a payload/handicap effect that is interesting to work with (against?) and that helps keep the model "in the park." (By the way, balsa is technically classified as a "hardwood.") The requirement for a built-up body gets away from treehouses perched on sticks, etc. The changes in contest flight rules just seem to make things more workable.

All in all, we end up with a model that is a sort of cross between a 14-gram Bostonian, an Embryo, and a Peanut -- handsome, sturdy, cheap, easy to build, and easy to fly. Indoors or outdoors.

The major challenge, of course, is in the design -- making it all fit legally on a sheet of 8½ X 14 paper. You soon discover that tradeoffs are necessary. Landing gear length and position can affect the size of your stab, fin, or prop. Wing chords can get only so wide. Etc. I like the "no parallel edges" and "no straight tips" rules, because they get away from the rather humdrum boxy lines common to most good Bostonians and Embryos.

THE SHYSTER SKYSTER by Aaron Petersen

If you build this cutie, you'll enjoy how it flies. But really, the thing to do is design and build your own Legal Eagle. That's fully half the fun, and is in fact part and parcel of Mr. Stott's concept. I am merely showing you what I came up with the first time around and reporting on the experience.

First off, two heavy wheels can allow for a rather short nose. A light balsa prop is almost a necessity to keep weight down, at least for contest purposes. (Even with the heavy wheels, I was able to keep the weight to 16.5 grams without too much trouble.) Use medium hard balsa for longerons and spars, light balsa for most everything else.

I assume you're experienced enough to build a model like this without detailed directions. Every real modeler has his/her own way of doing things. But I do want to tell you exactly how I set this little nimbus-nudger up to fly. Circle Trim! First, note the incidence, downthrust, and CG -- all rather typical. Then when I made the wing, I built 1/8" washout into the right panel, as measured at the rear end of the tip rib. I kept the left panel flat. I glued the fin on so the forward point is 3/16" to the right of center, to create a left turn.

When you test fly (left/left), all the above factors should produce a smooth, constant low-power/glide circle. Adjust the fin offset or balance if necessary to achieve this.

As you work your way up in power (adding turns), shim the noseblock to the right or the left as needed to maintain that same circle all the way up to max. thrust. It might not need any shim at all -- do whatever is necessary. Also, if the model does not climb well, it may be nose-heavy. Check the balance again.

The landing gear wire can be bent forward or rearward a bit to influence balance.

My model uses 5.5 grams of TAN II, a 5/32 X 27" loop. You must stick close to this for adequate power and for balance purposes. I braid motors for outdoor use, though they still bunch up at times for a "D.T." effect. Wind TAN II to the max for best duration. The above mentioned motor should take 2,200 turns if well-lubed.

You could gain about 10% in wing area by building two wing halves and butt-joining each one to the fuselage sides at the top somehow. (The plan should be changed to reflect this.)

My SHYSTER SKYSTER does around 90 seconds in still air, maximum effort. Not bad for a dwarfish model with 18% of its total weight in its wheels!

My prop block dimensions: 6" X 1" X 3/4"

Added hint: My model's fuselage is spray-painted with RUST-OLEUM "Silver." Just "dust" it on with short bursts from about 2 feet up until you have what you want. Doesn't add much weight at all, really. "Chrome" color is good also -- and much brighter. You just can't beat silver for visibility at dusk. I fly a lot at dusk, when the bats come out to play.

Tips on Trimming a Catapult Glider

by Rob Eberle

Now that there are two new catapult glider classes, and there is still an outdoor catapult class, you guys can't use the excuse that your arm isn't any good anymore! Now all you need to do is pick up your old broken Wakefield or Bostonian motors, make a little loop for your catapult (a 1/4" dowel works nicely) and tie it on, pick up your old glider, pull back and let go! No more running twenty-five yards, lunging and throwing your arm out of its socket all day long, then complaining that you're not getting any height. No, now all that you need to do is add another loop of 1/4 inch Tan II and let fly!

Keep in mind, many of these tips will directly apply to a hand launched glider also, in fact that's where many of them came from. So, if there are any other brave souls that have caught the age old, highly contagious, HLG disease, keep your ears open too. Let's start before you even leave the building room. Pick your glider up and hold it so you're looking at the side of the fuselage. Now take a very true straight edge and put it on the underside of the wing so that it extends back to the stab. Are the ruler and the stab parallel? If not then you have a decalage problem! To fix this, simply make them parallel. If this doesn't get fixed, your plane will either balloon tremendously, or tremendously dive on launch. This is one of the most common problems I see with many gliders, and there is nothing else you can do to the trim that will fix it except for making them parallel. **Don't try!** Believe me I have done everything known to man other than making the surfaces parallel, and wasted days doing so, with no luck! Now that you have done this you can go about trimming the plane many ways. If you have a way that works, go for it, but I'll give a brief description of my way if you don't. First I set the stab tilt according to the way in which I wish my glider to circle, but keep in mind this is very little tilt (1/4" max on big gliders). Next I set the rudder to its desired position. This can be done by warping, or, if you're confident of your plane, by gluing it on an angle. Again, very little amount will do. Now, if you have a plan, find the C.G., or if it is your own design, pick one! Once this is done, I add nose weight until I get the plane to balance at the C.G. The next step is optional. If you're flying indoors, I would recommend it, but if you're flying an outdoor plane, it isn't necessary. I take the tips of my wings and warp the last half inch up about an eighth of an inch, but before you do this, your wings must be thin enough to flatten out on the launch! What this will do is after the launch speed slows down, the tips will return to the position you warped them to and "push" the glider over the top, allowing you to launch the glider very vertical and then have it transition into the glide without much loss of altitude. Now you're ready to go fly, so grab your launching catapult and your glider and let's head out to the contest!

The first thing I do to trim the plane once at the flying site is to glide test it. This is done by banking the plane into the direction it will glide, and then giving it a **little** push with the nose level, not pointed up or down. Now, if the plane dives into the turn, what is happening is the plane is trying to turn so tight that it is trying to roll. What to do if this happens is to first check the stab and make sure that it isn't warped too much, meaning if you trim your plane for a roll out by warping one side of the stab up and the other down that this isn't more than maybe 1/16 of an inch. Once this is checked and fixed, if it still dives into the turn, look at the wing and see if any of the panels, excluding the tips, are warped up or down. The desired warp at this point is to have the innermost panel of the wing on the inside of the turn if you have polyhedral, or just the inboard half of the wing if you have dihedral, warped slightly down. No other panels should be warped at this point. What this will do is provide more lift on the inboard wing, the inboard wing being the one on the inside of the turn, and hopefully keep it from diving into the turn. If the airplane still does this after checking the wing, the final solution is to add bits of clay to the outboard wing tip, and glide test it after each bit of clay, until it goes into a smooth glide out of your hand. Now that the plane glides nicely during the glide test, I get the catapult, or just use your arm if you're flying a HLG, and give the plane a straight ahead launch at about 1/3 power, again keeping the nose level, not up or down. What should happen is the plane should come off the catapult or out of your hand and start into a climb while assuming its own bank, then gradually the climb slows and the plane goes into a glide. If the plane glides or balloons directly off the launch, check your decalage again. If it rolls over too far into the turn to go into its glide correctly, give it a little bank in the opposite direction on the 1/3 power launch. Continue this until the 1/3 power launch is perfect, then try the same thing at 1/2 power, and 3/4 power increasing the launch angle with each increase in power until you are ready for an almost vertical full power launch. Keep in mind you will need to play with the amount of bank you put into the glider on launch at each increase in power, until you get that perfect launch.

Just remember that each glider you build will fly differently from any other, even if they are built *exactly* alike. Also, remember that everyone will have a different way of doing everything I just explained, and *sometimes* their way is better! Actually, most of this information is from other people and I have taken the best, added some of my own, to accomplish one of the better trimming methods I have seen since I became addicted to this sick, insane end of the hobby which we all love so much! Have fun!

from The New York Indoor Times
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Landing Spot—The depression left in the ground when you remove your airplane.

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Postal P-30 Contest

Sunday, July 16th. 1995

The rules are simple:

1. **Fly on your field** (Don't send your plane)
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3. **Fly five forty minute rounds**
4. **Start at 8a.m. finish 11:20 a.m.**
5. **Go to fly-offs if needed**
6. **Results must be received by 8/1/95** (Please list everyone who flys)

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