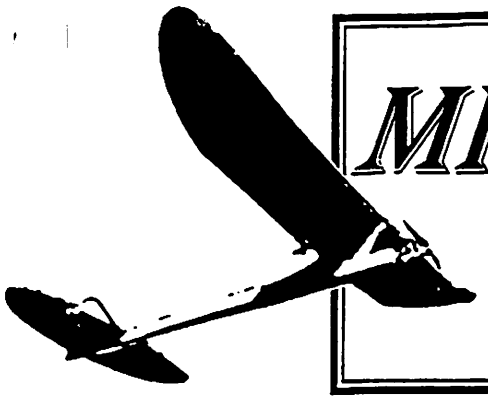
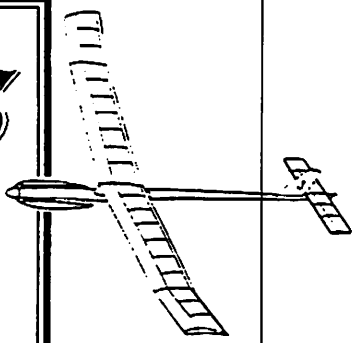


MINNEAPOLIS MODELER



Published six times per year by the Minneapolis Model Aero Club
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Editor..... **Joe Huettl** **(715) 842-9638**

Issue No. 277 **November / December 2000**

Coming Events:

November 3rd, 2000

Club meeting @ Air National Guard Museum....7:30 PM

December 1st, 2000

Club meeting @ A. N. G. Museum..... 7:30 PM

OAKIE'S ORACLES

Winter is almost here. It is time to build new ships for nest summer's outdoor flying. I plan to build a new ½ A, .020 Replica, 750 Ram Rod, and a new P – 30. My plans are grandiose, time will tell how much gets built. My ice fishing again may interfere with building plans.

Jack O'Leary and I are working to secure a new indoor site for this winter. I'm trying to secure my church's gym. It is 22 feet to the trusses. The trusses are 6 – 8 feet with large openings. The church has a large scaffold should planes get hung up. As soon as we secure a new site, we will put a new schedule together and mail them out to you.

At the November meeting, we will elect new officers for the new year.

I will try to secure a tour of Polar Aviation this winter.

The club expresses it's condolences to Denny Sussman and his family on the death of his dad, Bill. He was a gentleman and always in good spirits. Bill was hospitalized when I visited him a few years back. There was Bill, white shirt, necktie and dress pants. He was a class man!!

Jack O'Leary, Don Spehn, Joe Huettl and I attended the annual contest at Lawrenceville, ILL. The entries were down 50 – 75 contestants. The reasons were a convention at Vincences, IN, therefore a lack of hotel space, numerous contests in previous weeks at Muncie, IN., and the Sam Champs coming in 2 weeks. MMAC made a good showing. Joe placed 1^{ST} in P-30, 2^{ND} in Coupe (flyoff with Joe Williams), 3^{RD} in Mulvihil. Jack O'Leary placed 2^{ND} in OT Rubber Stick and OT Rubber Cabin. Don Spehn had a 1^{ST} in 1/2A, and a 3^{RD} in Nos Gas (A,B, C, D,). I placed 1^{ST} in B Gas, and 2^{ND} in ½ A Gas. It is always a great contest. The people were fantastic as always and people make our sport.

The Christmas party will be hosted by Val and Greg Thomas on December 2^{ND}. The address is 505 Wildflower, Burnsville (612-435-1086). The festivities will begin at 3PM. Pot luck as usual. A good time is guaranteed for all who attend.

This is the first year of National Cup competition. Bob Perkins compiled results from contests all over the country. Hats off to Bob for all of his hard work. The members of MMAC have faired well this year. Nice flying!!

We have one of the best flying sites in the country. Once again, THANK YOU to Harley Johnson Sr., Harley Johnson Jr., and Judy and Steve Remitz who have graciously allowed us to fly on their field.

We tried to attract out-of-towners with two two day contests. I sent out about 20 schedules to out-of-state flyers. Face it, we live too far north!! Many thanks to Dick Bloomquist and Bob Kumferman who traveled over 300 miles to our contests.

Tim Johnson suggested that we start a column sharing building tips. We all have techniques that could be shared with others. What are your thoughts?

Hope to see you at the meeting. Bring that new plane you are working on for show and tell.

Murphy's "Dirty Dozen" - Pointers To First Flight Testing:

1. Always "eyeball" flying surfaces for warps. If there "ain't none", steam surfaces over teakettle adding some bad ones as flat surfaces cause model to be erratic under power.
2. Never test glide a model before initial testing under power. It will probably dork anyway and you will have wasted all of that effort to get it to glide for nothing.
3. Never use reduced power or put prop on backwards on first test flight. This is an indication of a lack of confidence and insecurity.
4. Wear a false face and a hair piece when test flying so you won't be recognized when your model dorks (Bill Hutchins has some for sale). You could use a simple brown paper sack over your head, however, the "Unknown Modeler" bit has been somewhat overdone already.
5. Pick a time and place far away from wouldbe observers and hecklers to insure self-confidence and concentration. (Midnight at Stonehenge would be nice.)
6. Always fill bladder fuel tanks to their limit so when the model dorks the bladder will explode thereby starting a spectacular fire which in turn will completely destroy the model so you won't have to repair the dang thing. (Dick Smith has a "Black Belt" rating in this...)
7. Never install or use a mechanical fuel shutoff for the first test hop for the model will self-destruct within 5 seconds of launch anyway so why take a chance on damaging a perfectly good Tatone, K-Mart, or Selig timer.
8. For the same reason never use a D-T fuse. Save your matches for cigarettes and joints.
9. Never attempt a test flight with your car trunk lid open or your model will go screaming into it every time - (Hornbeck's Law)
10. Always launch directly at a large tree which is about 25 feet away. This way your model will be sure to miss it.
11. A less strenuous option is to never fly at all. Instead, sit around all day on a folding chair coaching Bob Perkins and telling everyone that you've already flown thereby completing the flying season with 37 perfectly new models leftover (see Floyd Miller for illustrated instructions.... Bob Lyle also gives advice on coaching and chair sitting and his rates are somewhat lower, However, Bob Placier says his coaching isn't as good either).
12. Anytime - you hear Meredith Chamberlain start an engine, immediately drop everything and "Run for your life"!

- - - - - - - - -

Merris' Corollary: If you re-adjust a model enough times, it will crash.....

GARY

INMARC NEWSLETTER MAY 1991

JACK McGILLIVRAY INDOOR FLYING...

Optimization of Rubber Motor Size
The object is to utilize the maximum number of turns wound into the rubber motor, during an efficient flight. It should land on the floor, just as all of the turns are used up. Following are methods of achieving this.

Problem 1: Aircraft runs out of turns above the floor (overpowered).
Solutions: *Use another motor with a smaller cross section, maintaining or increasing its overall length.
*Use another motor with the original cross section, but with increased length.
*Increase the propeller pitch, and/or propeller diameter.
*If motor is new, problem will diminish somewhat as motor breaks in.

Problem 2: Aircraft lands on floor with unused turns left in motor (underpowered).
Solutions: *Shorten up the existing motor.
*Use another motor with a larger cross section, maintaining or shortening its overall length.
*Decrease the propeller pitch, and/or propeller diameter.

When considering solutions to Problem 1 or 2, keep the following parameters in mind.

If possible, the rubber motor weight should exceed the airframe weight, but should not exceed double the airframe weight. On many aircraft, though, motors this heavy can't be utilized because of high wing loadings. When the motor length exceeds the aircraft motor base by more tan 2 1/2 times, vibration or risk of rubber bunching can occur, spoiling good flights de to center of gravity shifts.

With each successive wind on the rubber motor, the power output will fall, particularly when near breaking turns are applied, and a insufficient rest period between windings is not provided.

MMAC MINUTES FOR THE SEPTEMBER 8th, 2000 MEETING.

The meeting was called to order at 19:51 by President Gary Oakins.
Number in attendance: 14 MEETING
The minutes for the August were accepted as published in the Newsletter.
The Treasurers reported was given and accepted.
Gary reported that he had received an extra copy of the 33rd NFFS Symposium. He will donate it to the club for a raffle.
CORRESPONDENCE;
There was no reported correspondence.

OLD BUSINESS :
There was a discussion on several indoor sites and their merits. Gary Oakins volunteered to make calls to secure a site. More on this at the October meeting.
The fall fling will take place at Gary's home on October 14th. It will take place from 14;00 till sunset so the elderly can get home before dark. It will be Potluck. Gary will send out a detailed letter on it.

NEW BUSINESS:
Bob Oppegard's family donated a super scale to the club. It will be well used by the Indoor Flyers. THANKS! Anyone who would like to check it out, see Gary.
Tim Johnson was contacted by the people at Bandana Square to see if the club would be interested in having a display at their place. They may come to a future meeting.
Gary reported that Don Spehn has suggested we have fewer contests and less events.
Jeff Welliver offered a suggested we keep our indoor site for a couple of contests and the Simonson Fund could help out in the costs. More on this later.
RAFFLE:
The raffle was a Dremel tool. It was won by Don Patterson
The meeting adjourned at 20:30
Tim Johnson showed his LOB. Its a half A powered by an 049 AME.

H.L. for D.M.



MMAC Minutes for the October 5th, 2000 Meeting

The meeting was called to order at 19:30 hours with President Gary Oakins presiding.
Number in attendance: 18
The minutes for the September 2000 meeting were presented and approved by members.
The treasurer's report was given and accepted.

CORRESPONDENCE

None

OLD BUSINESS

Jack and Gary are working on getting a new indoor site. A report on progress will be given at the next meeting. The possibility of shortening the number of indoor contests for this year was suggested.
A motion was made and seconded to change the indoor Bostonian weight from 14 grams to 7 grams in future contests.
Members were reminded of the Fall party at Gary Oakins house on October 14th.

NEW BUSINESS

Election of Officers will be held at the next meeting, November 3rd.
All the present officers have volunteered for re-election.
Gary gave a report on the contest held in Lawrenceville.
Jim Ladwig gave a financial report on MMACYO funds.
Danny Sussman's father passed away on October 3rd. The club expressed condolences to the Sussman family.

The meeting adjourned at 20:15 hours.

Don Patterson won the $20.00 door prize.

Respectfully submitted,
Duane McDonnell
Secretary



"Octoberflug"

October 7th & 8th, 2000

Gary Oakins, CD

Placing	Contestant	Scores			Total
	½ A GAS				
1st.	Don Spehn	120	120	120	360
2nd.	Tim Johnson	48	52	75	175
3rd.	Terry Taylor	120	43	-	163
	A GAS				
1st.	Dick Bloomquist	109	120	120	349
	B GAS				
1st.	Dick Bloomquist	120	120	78	318
2nd.	Gary Oakins	120	112	5	237
	NOSTALGIA GAS				
1st.	John Watkins	120	120	120	360
2nd.	Dick Bloomquist	120	63	120	303
3rd.	Tim Johnson	107	120	55	282
4th.	Don Spehn	63	7	-	70
5th.	Herm Fessler	36	-	-	36
	PEE WEE 30				
1st.	Bob Kumferman	34	109	120	1757
2nd.	Herm Fessler	120	60	52	1435
3rd.	Jim Anderson	107	39	71	1363
4th	Terry Taylor	114	-	-	760
5th.	John Watkins	10	-	-	10
	.020 REPLICA / 1/4 A NOS GAS				
1st.	Gordon Dona	120	120	120	360
2nd.	John Watkins	99	120	47	266
	MULVIHILL				
1st.	Gordon Dona	120	120	120	180	540
2nd.	Warren Ringlien	120	120	120	132	492
3rd.	Joe Huettl	120	41	-	-	161
4th.	Larry Dona	120	-	-	-	120
	OLD TIME RUBBER				
1st.	Gordon Dona	120	120	120	360
2nd.	Joe Huettl	120	120	120	360
3rd.	Larry Dona	111	101	98	310
	COUPE D HIVER				
1st.	Joe Huettl	110	44	98	252
2nd	Warren Ringlien	92	49	72	231

Placing	Contestant	Scores			Total	
	P-30					
1st.	Joe Huettl	120	120	120	360	
2nd.	Gordon Dona	120	120	120	360	
3rd.	Jim Anderson	71	47	44	162	
4th.	Larry Dona	48	31	59	138	
	EMBRYO ENDURANCE					
1st.	Herm Fessler	120	93	69	+9	291
2nd.	Duane McDonnell	46	58	62	-	166
3rd.	Doug Zimmer	80	23	45	+6	157
	CATAPULT / H L GLIDER					
1st.	John Watkins	120	57	42	219	
2nd.	Herm Fessler	46	58	80	184	
3rd.	Warren Ringlien	73	60	37	170	
4th.	Doug Zimmer	20	27	120	167	
5th.	Duane McDonnell	26	38	77	141	
6th.	Dick Diers	31	24	83	138	
7th.	Gordon Dona	47	24	58	129	
8th.	Tim Johnson	52	41	35	128	
9th.	Joe Huettl	17	37	17	71	

PEOPLE MAY FORGET HOW FAST YOU DID A JOB, BUT THEY WILL REMEMBER HOW WELL YOU DID IT.

REMEMBERED quote from pre-WWII days when we edited a country weekly in a small oil field town: "The meek shall inherit the earth — but not the mineral rights."

Drug Store clerk at a previous Lake Charles Nationals - "I know y'all are flying model planes out there at the air base, but what in the H--- is a NATS?"

Free Flight is NOT Dead!

"Fall Meet"

September 10th, 2000

Dale Mendenhall, CD

½ A GAS

Placing	Contestant				Total
1st.	Gordon Dona	94	120	97	311
2nd.	John Watkins	120	77	51	248
3rd.	Tim Johnson	89	78	63	230
4th.	Gary Oakins	82	57	63	202
5th.	Jim Anderson	20	-	-	20

A GAS

1st.	Gary Oakins	120	120	106	346
2nd.	Tim Johnson	120	64	74	258

BCD GAS

1st.	Gary Oakins	120	120	120	120	480
2nd.	Denny Sussman	120	120	120	-	360

CLASSIC GAS

1st.	Jim Anderson	88	120	78	286
2nd.	John Watkins	120	120	-	240
3rd.	Tim Johnson	63	84	71	218
4th.	Dick Bloomquist	120	-	-	120

PEE WEE 50

1st.	Herman Fessler	120	120	68	1920		
2nd.	Bob Kumferman	67	68	92	1513		

MULVIHILL

1st.	Gordon Dona	120	120	120	180	240	780
2nd.	Jack O'Leary	120	120	120	180	141	681
3rd.	Aaron Peterson	120	120	120	180	31	571
4th.	Jim Jorgensen 111	83	120	-	-	314	
5th.	Herman Fessler	98	-	-	-	-	98

COUPE D HIVER

1st.	Jim Jorgensen	120	120	63	303
2nd.	Bob Kumferman	101	71	102	274
3rd.	David Pederson	59	55	-	114

JUNIOR EVENT

1st.	David Pederson	120	52	-	172
2nd.	Sean Moore	73	21	-	123

Placing	Contestant	Scores			Total
EMBRYO ENDURANCE					
1st.	Herman Fessler	118	117	92	+9 336
2nd.	Bill Rogers	120	120	85	- 325
3rd.	Jim Jorgensen	115	120	79	+9 314
4th.	Don Berggren	96	93	48	- 237
5th.	Jim Anderson	58	38	29	- 134

HI L GLIDER

1st.	Gordon Dona	60	105	64	229
2nd.	Dick Diers	120	58	37	215
3rd.	Bob Griffiths	26	32	120	178
4th.	John Watkins	47	57	65	169
5th.	Al Nephew	44	82	32	158
6th.	Herman Fessler	36	82	38	156
7th.	Don Berggren	48	25	28	101
8th.	David Pederson	54	27	19	100
9th.	Tim Johnson	34	23	-	578

P-30

1st.	Gordon Dona	120	120	120	360
2nd.	David Pederson	120	93	120	333
3rd.	John Watkins	113	113	107	333
4th.	Bill Rogers	120	120	86	326
5th.	Tim Johnson	115	120	84	319
6th.	Jim Gerszewski	78	94	120	282
7th.	Jim Anderson	120	78	83	281
8th.	Bob Kumferman	40	59	120	219
9th.	Jack O'Leary	114	64	-	178
10th.	Herman Fessler	90	79	-	169
11th.	Don Berggren	71	56	-	127
12th.	Aaron Petersen	62	-	-	62
13th.	Don Spehn	59	-	-	59

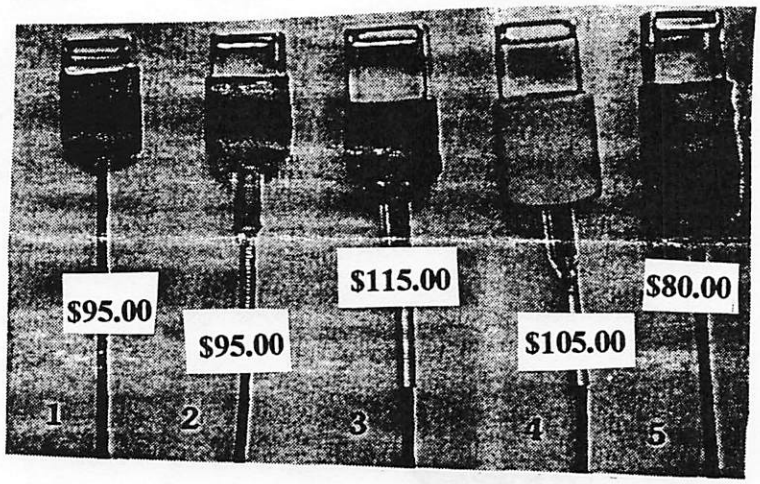
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THOUGHTS ABOUT THERMAL CENTERING

By ..... Bill Bogart

We have all seen it. The ship is launched well but misses the thermal. At about 50 feet up it bumps into the edge of sosmething, rises a bit then circles on and down. Comes around again, bumps up raising hopes, etc. Sometimes ships in this situation sense where the thermal is, change their circle and center themselves in the lift to go on for the max. Sometimes it loses the lift and is down before the max. Really the solution is simple. If the thermal is to the right, adjust the ship to turn into it. If the ship is trimmed to turn right, it may well behave like the hapless example above. If it circles left, it still must temporarily open the circle so that when it encounters the lift on the next turn it is more head on. Eventually it centers in lift. But how?

There is something else I've noticed. A towliner glider launched so poorly that it stalls, drops the nose, picks up speed, raises the nose again to another stall and finished the flight at 92 seconds. Or, a strong-edged thermal upsets the ship and it dips all the way to the ground. It probably will not center in a thermal. Suppose we put a one-gram swing weight on the right wingtip (the ship is trimmed to turn right). It will probably tighten the circle which can be adjusted by the glide setting of the rudder. Now then, when the wing stalls, the right wing drops first being heavier, banking the ship and reducing the number of oscillations toward steady flight. The next time it gets hit with a thermal updraft causing it to stall, it will recover and move toward the thermal center. But it may not stay centered. Either wingtip must be able to stall for thermal centering.

Most ships currently have turbulators on the wings to increase the stall angle by keeping the air attached to the wing to higher angles of attack. If we trim to within two degrees of the stall angle and an updraft increases the angle of attack 1.5 degrees, the ship is safe and probably will not lose any altitude. Imagine what would happen if BOB WHITA removed, say, five inches of turbulator from the left wing of his No. 22. It circles left. An earlymorning flight would be unaffected. Now let us see what happens when it encounters a thermal (center is to the right). The unturbulated section stalls, dropping the wing and tightening the circle temporarily. Next time around it hits the thermal more squarely and repeats this motion until it has centered itself.

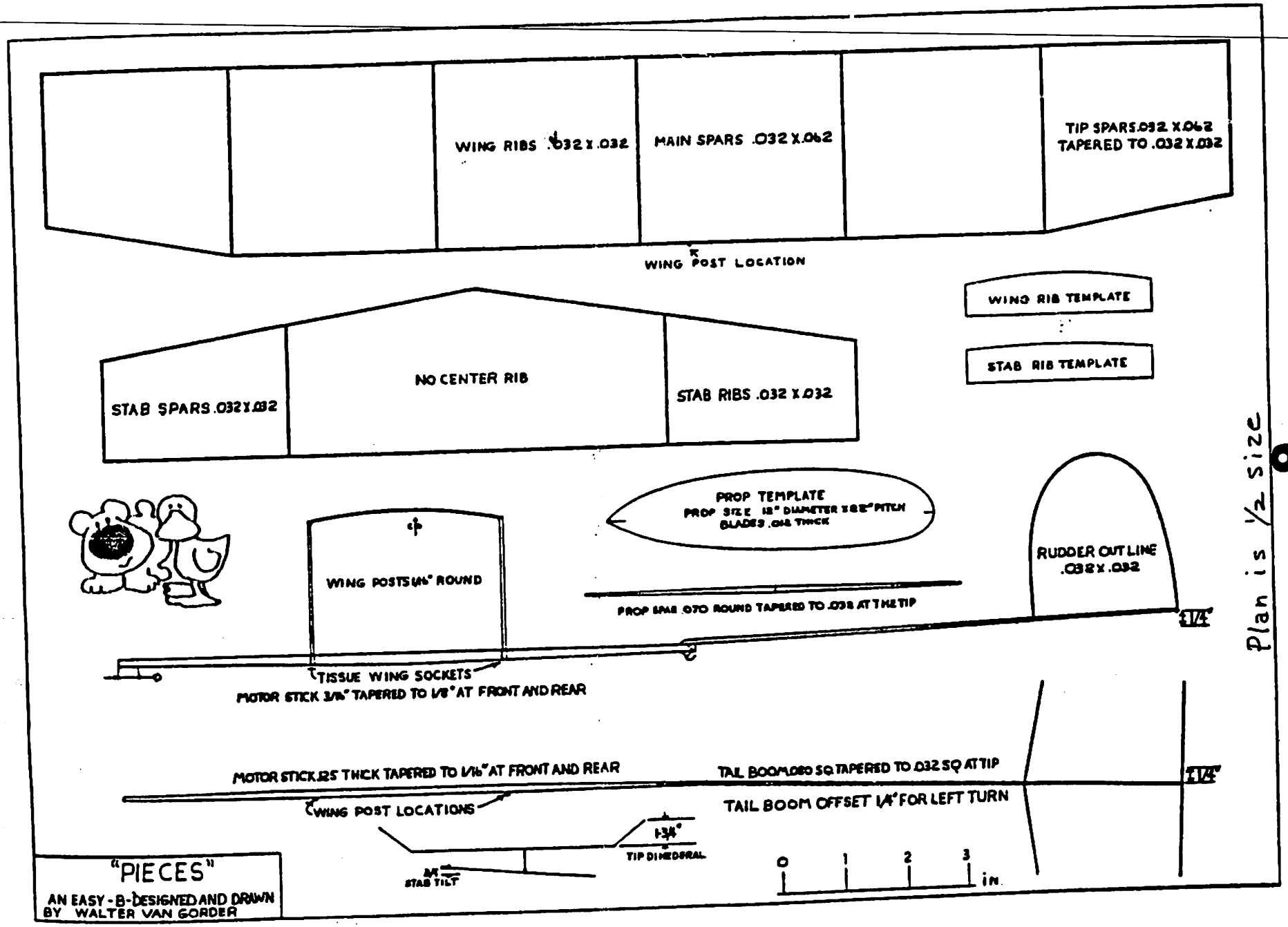
It appears that the basic thing is to trim the inside wing tip nearer to the stall than the remainder of the wing. Wing twist could do this where the inside wing is washed in more than the remainder of the wing. But, if this wing stalls completely, it will roll out of the turn due to twist and can stall clear to the ground. We've all seen it.

I see three things that could be tried on the inside wingtip to center the ship in the thermal: 1. Remove the turbulator on that wingtip or reduce its height, 2. Sharpen the leading edge by carving the bottom of the leading edge spar, increasing the Phillips entry effect and, 3. Reduce the tip airfoil camber to near flat bottom. This latter one must be done on a new wing or when replacing a smashed tip.

EDITORS COMMENT: I build in more washout on the left wing tip than on the right. I circle right. Thus the right tip stalls first, model tightens circle, comes around to hit thermal squarely and eventually centers itself in thermal..WHOOPEE!!

(First published in SCATTER-Craig Cusick, Editor.)

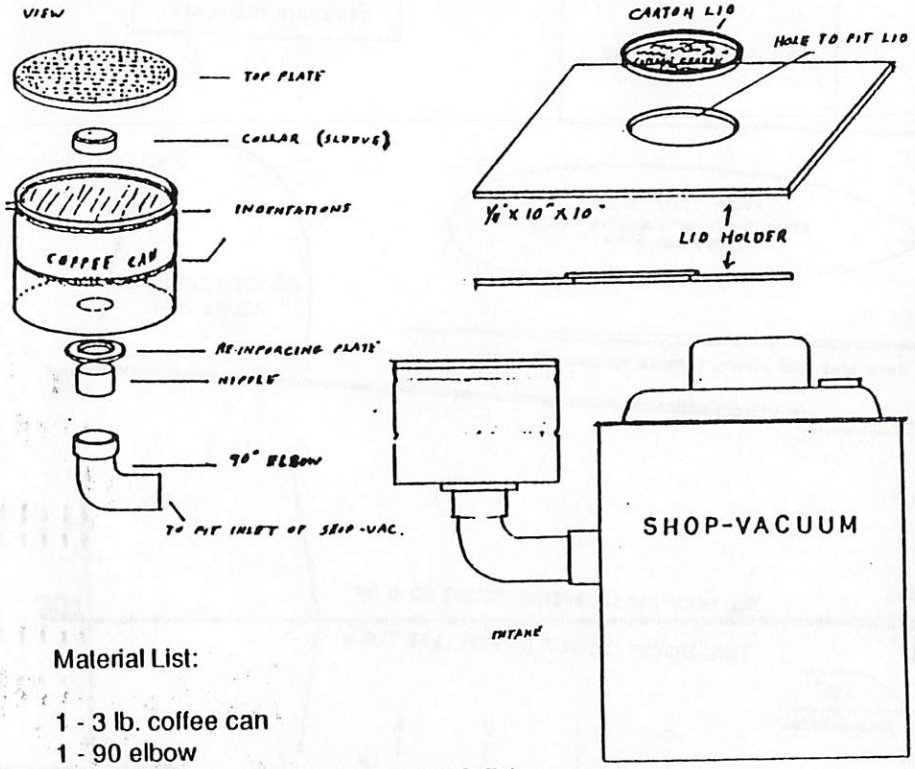
This EZB did 25-58! Build one and have a ball!



Rich Howard's Vacuum Former

via The Cactus Squadron Newsletter
Dave Smith, Editor

Well, longeron layers, if you've ever been wanting a vacu former machine, Dick Howard has come up with one that is really nifty, and very inexpensive. Here's a vacu forming device that is not only simple to make, and easy to use, but best of all uses a common source of forming material (COTTAGE CHEESE CARTON LIDS). This particular plastic heats well, forms great, and can be glued with many types of adhesives. Also, if you've been making propellars from the cartons as I have for many years, there's probably a few lids laying around already. The diagram and instructions refer to the Shop Vac. However, a household type vacuum cleaner with a flexible hose can be used with equal results providing it has enough suction.



Material List:

1 - 3 lb. coffee can
1 - 90 elbow
1 - nipple 2" plastic 3" long (2-3/8" O.D.)
1 - collar 2" plastic sleeve
1/4" hardboard (masonite) 3-1/2" diam. for reinforcing plate
1/4" hardboard (masonite) 10" x 10" for lid holder
3/4" hardboard (or similar) 6" diam. must have one smooth side
36' of duct tape

The Minneapolis Model Aero Club
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