CENTRAL INDIANA AEROMODELLERS

INFORMER

FREE FLIGHT NEWS OF THE MIDWEST

** The Weather **
As November 21,
so the winter!

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- Editor -
Moe Whittemore
2348S, 700W
New Palestine
IN 46163
(317) 861-4266
mjwhitte@ix.netcom.com

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More Thoughts on Model Aircraft Design - by Mo

I guess Agent **Dick Covalt** caught a bit of flak for his piece proposing *"Wingspan Is Everything - other parameters be damned!"* concerning model gliding duration, in the last issue of the Informer! He further proposed that wing aspect ratio was of little meaning as a predictor of gliding duration.

In a sense, he's right - based on the practical data he was working with. I'll try to fill in the blanks to show that there's a bit more involved - using the same two models used in Dick's example. I'll be using my 'time-tested' (old & moldy?) glide performance program to generate some numbers. By the way, this program is a combo of aerodynamic theory (yes, it includes both turbulent and laminar boundary layer effects), tempered by quite a bit of empirical input generated by flight tests. The program will project gliding durations to within 1- 3% of measured results - close enough for rock 'n roll.....



Let me start with the contribution of wing aspect ratio. The typical power model's AR has been stagnant in the 7 to 11 range for years. Only recently have AR's moved beyond this range - mainly in the FAI classes. It's my contention that *the wing AR on most classes of models is far below optimum*, with the modern Wakfield only now beginning to sneak up on the 'right' numbers! Most Ars should be in the 20 - 25 range (based on mass & area loading) - if glide duration is all-important! But how you keep a long, skinny wing like this together is your challenge..... My 160 sq.in, overweight Coupe with its 18:1 AR, would out-glide (& out-climb!) my other coupes with their 200 sq. in. wings and 'traditional' 12:1 ARs by at least 20%.

Another major player in the duration game is wing section thickness - *thinner is much better* - at least down to about a 2.5% section. Minor, but influential players in the outdoor gliding game are model mass, hi-point location and undercamber.

Using the same two model subjects of the last article (Gib's and Ed's), we show ways to upgrade Gib's underdog model to beat Ed's glide by better than 18%, and also show that merely increasing span beyond the optimum AR value actually decreases glide performance.

Check the table on page 5 for the things we tried on Gib's model, along with their individual contributions to the overall performance picture. Hope it gets the ol' gray matter churnin'! Enjoy!!

It's a banner month for new Agents!! Let's extend a warm handshake to the following newbies! **Ed Sneed** from Columbus, OH; **Danny Wilson** from Muncie, IN; **Hank Sperzel** from Bellvue, NE; **Gary Oakins** from Birchwood, MN and **Dennis Sussman** of Bloomington, MN; **Carl Bakay** from Harvey, La; **Don Vetter** from Baltimore MD (check the dvetter web site for loads of free-flight goodies!); **Lonnie Kinder** from Windfall, IN and **Carl Rowland** from Grand Ledge, MI. (Whew! If this keeps up, we soon might make 300 subscribers - the required number for a special postage rate!!)

There's a Swap Meet a-comin'! The Munsee Skychiefs' bash happens Saturday, Nov. 28th at the Delaware County Fairgrounds, 1210 N. Wheeling, Muncie, IN. Doors open at 10am.

Contact Reggie Sewell, 5101 S. Co. Rd. 400E, Muncie IN 47302.
Ph: (765) 284-3711, for more info.

Any Indoor buffs in the area? Double-Agent **Don DeCook** just sent me a notice from the ***Calumet Escadrille*** about their '98-99 flying schedule at the Harrison Middle School, 61st & Harrison Sts, Merrilville, IN. They fly 6:30 to 10pm Friday nights (Nov 13, Dec 18, Jan 29, Feb 26 and Mar 26). The April 30 get-together is a contest!

For more info, call Phil Cox (219 838-2402) or Chris Starleaf (815 786-6490) or starleaf@indianvalley.com.



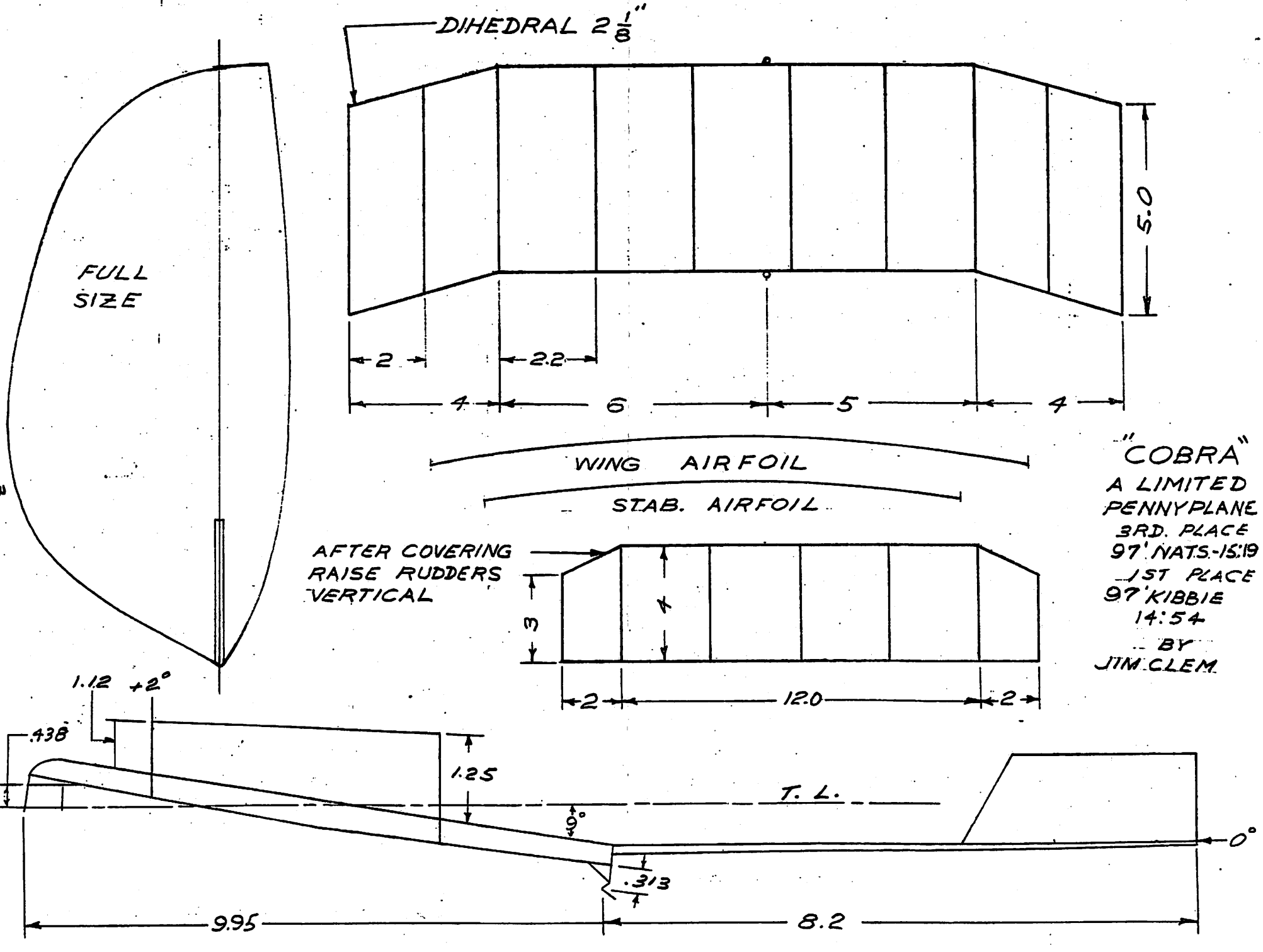


Check out Agent **Jim Clem's** unusual, but quite successful MiniStick class indoor model on the following two pages. The unusual layout is a solution for the tremendous torque problems he'd been having with this class of model. It's been stated that if you put the thrust line above the Center of Gravity, it should greatly help the severe launch torque problem. Took his clues from Keith Hoover and Charles Hampson Grant

It didn't completely solve his launch torque problem, but it does allow launching with considerably more torque than normal. In cruise, the model assumes a beautiful "on the step" attitude. In descent you can tell it's *your* model because of the unusual "banana" shape. Neat stuff!!

A reminder, and a request.... Articles for the *1999 NFFS Sympo* are needed! Send your abstracts on any and all FF subjects to Editor Robert Perkins, 2285 Pinebrook Road, Columbus, OH 43220. Ph (614) 451-3558 or edsympo@columbus.rr.com.

The *Ten Models of the Year* nominations are also requested. (Don't forget that gadgets, as well as models are welcome!) Send your preferences to Larry Kruse, 1204 S. Mansfield, Stillwater, OK 74074. Ph (405) 372-2538.



"COBRA"
A LIMITED
PENNYPLANE
3RD. PLACE
97' NATS.-15:19
1ST PLACE
97' KIBBIE
14:54
BY
JIM CLEM

MODEL NAME "COBRA" - L.P.P. BUILDER JIM CLEM

MOTOR STICK SOLID

Density # 4.8 LB. Grain A Length 10" Front, Width .120

Height .200 Center, W. .220 H. .335 Rear, W. .120 H. .200

Cut Weight _____ Finished Weight 1.15 GM. Special Instructions _____

Thrust Bearing, Wire size _____ Other HARLAN BEAR. Web. Density 7#

Thickness .093 Rear Hook .080 Web. Density .032

Thickness _____ Paper Tubes. Material Used JAP TISSUE

Adhesive Used AMBROID 50/50 Special Instructions 6 DROPS TOA/OZ.

WING

Leading Edge Spar. Density 7# Grain A Length 19" Width .062

Height .062 Weight _____ Trailing Edge Spar. Density 7# Grain A

L. 19" H. .062 W. .062 Weight _____ Tips. Density 7#

Grain A Tip at L/E. Width .062 Height .062 Tip at T/E. Width .062

Height .062 Weight for 2 Tips. _____ Ribs Standard. Density 5#

Grain A W. .032 H. .062 Weight Ea. _____

Wing Posts Density 7# Grain A L. _____ W. .062 H. .062

Wing Covered. _____ Wing Weight Complete. .81 GM. Special Instructions

STAB

Outline. Density 6.4# Grain A Leading Edge Center, W. .045

H. .062 Tip. W. .045 H. .062 Trailing Edge Center, W. .045

H. .062 Ribs. Density 5.5# Grain C W. .032 H. .050

FIN - FORMED BY TURNING TIPS ↑ 90°

Fin, Not Floating. Density _____ Grain _____ W. _____

H. _____ Weight Dry. _____ Weight Covered _____

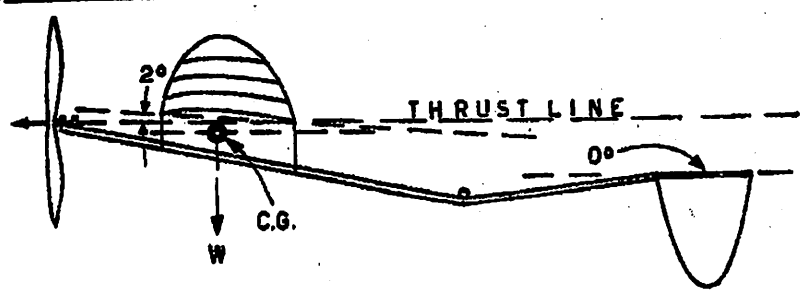


FIG. 66

MODEL NAME "COBRA" - L.P.P. BUILDER JIM CLEM

Prop Spar. Density 12-14 LB. Grain A Spar Length 4.5"

Dimensions at prop shaft, W. .062 H. .062 Dimensions at Tip.

W. .062 H. .062 Spar Weight. _____ Prop Shaft

Wire Size. .018

Prop, Wood Blades

Blades. Density 4.5 LB. Grain A Blades Area, Ea. 9.3750. IN.

Blade Thickness .025 Weight for 2 Blades _____

Give prop pitch at 45 degrees and one inch from tip. Pitch at 45 degree 20.4" Pitch 1 inch

From tip. 20.4". If V/P, Low pitch _____ High pitch _____

If V/D, Diameter when extended _____ Diameter when folded _____

Special Instructions on prop construction MAKE 4.5" PROP SPAR ROUND AND INSET 1.25" INTO EACH BLADE. PROP. WT=.756

RUBBER

Loop Length 19½" Width .075 Rubber Vintage, Month and Year 8/93

.078 OZ. Weight of Loop. 2.21 GM. Turns 2162

Back off Turns. _____ Launch Torque in inch ounces. -6 Turns Left 330

Do you use O rings. Yes. YES No. _____

TRIM

Wash In, Wing Left panel .093 Wash Out Left panel. 0

Wash Out, Right panel 0 Wash In, Right panel 0

Wash In Stab, Yes _____ No NO How Much _____

Down Thrust. NO Left Thrust. 4° Special trim instructions.

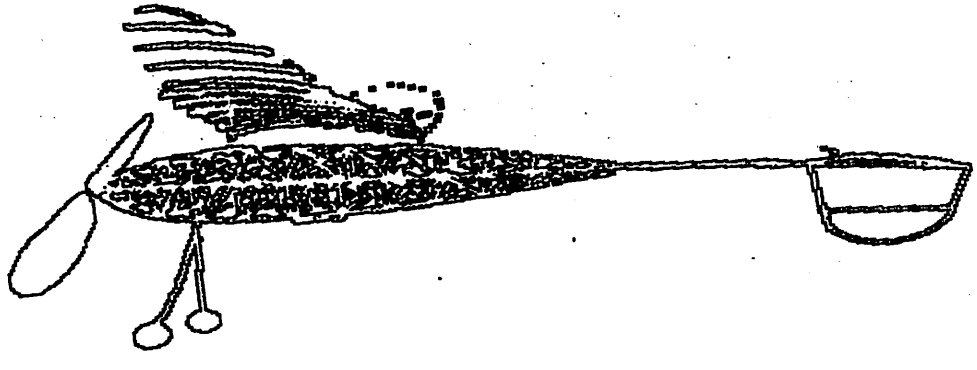
SKETCH FROM - "MODEL AIRPLANE DESIGN & THEORY OF FLIGHT" - P. 85 BY CHARLES HAMPSON GRANT - 1941

Ed vs. Gib - Does span only rule??? Calc's courtesy of Moe's Glide program 09/07/98

Known (Ed): Area = 720 sq.in.; Mass = 1022g; Span = 104"; Hi pt. thickness = ("thinner than hell") = 5.5% @ 35%.
Known (Gib): Area = 515 sq.in.; Mass = 625g; Span = 65.5"; Hi pt. thickness = 11% @ 35%.

Projected stock performance:

Sink rate (ft/sec)	Dur from 250' (sec)	Span (in)	Thick (%)	Hi Pt @ (%)	CLG	CD	Rey.No.	AR	Area (sq.in.)	Mass (g)	Comments
0.84	298	104	5.5	35	0.953	0.04	62945	15.02	720	1022	Stock Keck
1.21	207	65.5	11	35	1.266	0.097	57343	8.33	515	625	Stock Gib
Trying various Things on Gib's model:											
1.05	238	65.5	5.5	35	0.937	0.053	66664	8.33	515	625	1/2 thickness @ hi/pt - 15% improvement
0.98	255	131	11	35	1.119	0.065	30491	33.32	515	625	Double span - 23% improvement.
1.19	210	65.5	11	25	1.517	0.125	52379	8.33	515	625	Hi pt forward to 25% - 2% improvement.
1.35	185	65.5	11	35	1.349	0.169	78538	4.17	1030	625	Double area - 12% degradation.
0.86	290	131	5.5	35	0.824	0.036	35524	33.32	515	625	1/2 thk & double span - 44% improvement.
0.89	281	112	11	35	1.266	0.071	33437	24.5	515	625	Optimizing on A.R. (stock setup).- 36% IMPROVEMENT
Optimal Setups:											
0.76	328	108	5.5	35	0.953	0.04	39999	22.75	515	625	1/2 thick, A.R. optimized.- 59% improvement.
0.79	316	110.5	5.5	35	0.969	0.039	41987	23.75	515	731	Same area loading as Ed's; AR optimized @ 1/2 thk.
0.71	352	118	5.5	25	1.059	0.042	36029	27.25	515	675	Full Monty" for Gib. Added 50g for skinny wing beef-up. 70% impr.
Continuing with increasing span...											
0.78	320	130	5.5	25	0.951	0.039	34644	32.82	515	675	A.R. 'over the hill'.
0.81	308	150	5.5	25	0.915	0.038	30609	43.69	515	675	A.R. further 'over the hill'.
Now, optimizing Ed' model:											
0.71	352	140	5.5	25	1.005	0.037	45530	27.22	720	1022	Full Monty" on Ed's model - an 18% improvement over stock.



TORP .19 GREEN HEAD vs. OS MAX .19 STEEL FIN CYLINDER

During some conversation at the '98 Muncie Free Flight Nats a question was asked as to which engine - a Torp .19 Green Head or a OS Max .19 Steel Fin Cylinder - would be more powerful for the 1999 NFFS single design event. Joe Foster's 1950 "Honey-B" has been selected as the single design for the event. No one had a knowledgeable answer so I was determined to find out by testing since I have a good example of each engine.

The testing took place over a 5 hour period on September 16, 1998 in Anderson, Indiana. The temperature ranged from 78 to 85 degrees Farenheit with relative humidity in the 40 - 50% range. Fuel was Red Max 20% standard over-the counter mix. Both engines started and needled about the same. They were both run with venturi wide open and fueled by bladder with an OS .10 R/C throttle needle valve assembly used as a remote needle valve. The following is a summary of that test:

	RPM	
PROP	TORP .19 GH	OS MAX .19
APC 7 5/8 x 3 1/4 Plastic	19,100	18,700
Tornado 7 x 4 Yellow Plastic	18,300	17,900
Rev-Up 8 x 3 3/4 Wood	17,300	17,100
Rev-Up 8 x 4 Wood	17,200	17,000
Zinger 7 1/2 x 4 Wood	16,500	16,300
Top Flite 8 x 5 Wood cut to 7 1/4	15,300	15,600
Tornado 8 x 4 Yellow Plastic	14,500	14,900

It was noted during the runs that each engine seemed to be overheating. Early in the run before the engines heated up they would peak a few hundred RPMs higher than they would sustain after 30 seconds or so of running. On September 30 an additional run, using a prop which was overlooked in earlier testing, was made using 20% Red Max with 5% Castor added by weight. Each engine seemed to run cooler and would hold the early peak throughout the run. The following is the result of this run:

APC 8 x 4 (First Design with Light Hub)	16,300	16,400

The Torp .19 GH weighs 6.2 ounces with the exhaust stack to the left side. The OS Max .19 weighs 5.0 ounces with the exhaust stack on the right side. The Honey-B built as material is specified on the plans is estimated to weigh about16 ounces minus engine. What is your choice for the engine on this model?

Thermals. Dick Covalt September 30, 1998

MicroFlyer Update... by Mo

Remember the micro-flyer (MAV) article a few issues back? I recently came across more detailed info as to what DARPA is expecting of industry and academia. General MAV specs are as follows:

* Hand-held device.
* One-time use aircraft..
* Less than 6" in any dimension.
* Less than 4oz.
* Less than $1000 each.

Other desirable traits include the ability to carry out real-time imaging, navigation, communication, have a range of 6 miles, a top speed of 30mph, and fly for at least 20 minutes.

Powerplant approaches currently follow three paths: 1) small reciprocating engines, 2) electric motor systems, using either batteries or fuel cells and 3) micro-*jet* engines!

The recip engine is - what else - the Cox TD .010! Fitted with a tuned pipe and a 2" prop turning 30,000rpm, it is capable of considerably more than the 5 - 8 watts of power to keep the rig airborne.

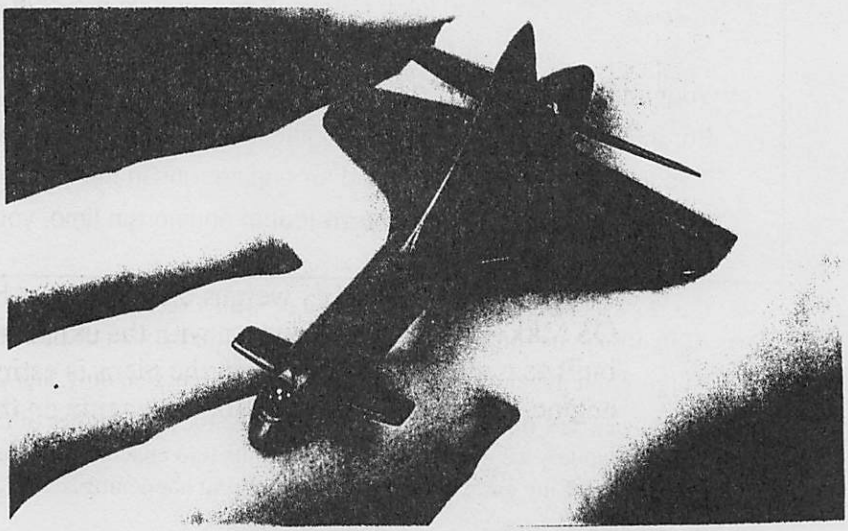
Remember the "Black Widow" (the 6in saucer) from the previous article? It used 2 each, 13 gram special matchbox-size lithium batteries (at $200 each). This pack is theoretically capable of 6v @ 1 A-hr for 20 hrs, but in this app. yielded 0.35 A-hr when discharged in a 20 minute flight. The direct drive brushless DC motor yielded a propulsion efficiency of only 15%, but the designers believe they could double this by using a gearbox to reduce prop speed. The weight of the battery is still the hangup for electric systems. Target energy densities need to be in the 800Joules/gram range. This 'breakthrough battery' is still 2 - 3 years off in the future. Experimental mini-fuel cells show promise in achieving energy densities in the above range, but require complex external support systems to do so. Oh, well....

Would you believe the 3rd engine option is a micro-jet? Engineers are trying to shrink these power-plants to the size of shirt buttons! These tiny turbojets will spin at 2.4 *million* rpm! Despite manufacturing problems to be encountered, these micro engines promise thrust-to-weight ratios of 100:1, with a calculated output of 100watts (about 1/7 hp). So far, M-Dot Inc's turbojet puts out 1.4lbs of thrust, weighs 78grams, but is big as an egg. But down the road, designers expect to use multiple microjets in these MAVs; one for propulsion, one for hovering and one to generate on-board power!

What about control systems? First things first! The designers are concentrating on getting these things airborne. A handful of MAVs are now flying, and several more should be should be test flown by the end of this year.

Recent student competitions had MAVs flying 600yds, "peer" inside a box, then fly back to the launch site with info on what's in the box. But this crop of MAVs looked like conventional small RC models. Next year's competition will 'raise the bar' by demanding smaller, less expensive flyers with a more difficult task to perform.

The future is here!! - MJW



From: Doug Galbreath

Subject: Proposal for AMA Gas.

First, a little background on the reason for this proposal.

1. AMA gas as we now know it, is advanceing to a state of decay.

2. Participation continues to drop each year.

We need to explore the whole picture, and then make a determination concerning the future. A rule change here and there will not fix the problems. The time is now to look into the future while it is still bright enough to see into it with any degree of clarity.

Let's discuss for a moment some of the reasons for our situation.

For the past thirty or more years, the basic rules have been the same for AMA Gas events. During that period of time we have had: a steady increase in the power available and the ability to build and adjust for that power; a quantum jump in the building techniques; another quantum jump in the design criteria as a result of the new building techniques; and a few others as well. This has brought about a new regimen for flying and winning a contest. Namely, one of making as many flights as possible before the sun sets. A truly modern model, expertly flown, will do the max every time if no big mistakes are made or it is not lost. This puts a premium on chasing speed on the bike. If you can average a higher speed during the chase over an entire day, have your own timekeeper to be there ready for you when you get back, it is easy to see that one or more flights can be gained on another competitor in the course of the day. This can lead to a dangerous situation, and it is un-policable. Besides that, the non-athletic older person who flies in to a contest can forget about doing it on foot. He cannot win, so he does not compete any more. Even those of us who could do it are put off by having to fly from dawn to dusk to win one event. It is more like a career than a hobby. The marathon aspect of AMA gas has got to go! A change is needed to bring the fun back, consistent with the field sizes we fly on.

AMA free flight would be helped by the following idea.

One change to the very simple gas FF rule we now have.Change the way the flyoff is structured. This would be as follows:

Three flights, exactly as we have now, in 1/2A, A, B, C and D. If you achieve a perfect score, you are qualified to go on, but with only a finite number of seconds of engine run to be used in any fashion you desire to make as many maxes as possible (with a 5, 3, or 2 min. max) or until you run out of seconds of engine run.You could use it all on one flyoff flight if that seems like all you need to win. The engine must be running when the model is launched. No hand glides.

Cat. 1. 12 second engine run. 5 min max. 3 flights.

Flyoff with a total engine run of 12 seconds for all flyoff flights, 5 min. max for each flight.

Each engine run time in the flyoff only will be rounded down to nearest half second.

Example: 1st flyoff round—5 sec. engine run=300 sec.
2nd flyoff round—5 sec. engine run=300 sec.
3rd flyoff round—2 sec. engine run=98 sec.

Your total score would be 900 sec. plus flyoff of 698 sec, or total of 1598

For a tie, issue another 5 sec. engine run time to each competitor to be used as desired.

Two timekeepers must be used for engine runs in the flyoff.

When you do not max, or you are out of engine run time, your event is finished.

Cat. 2 (9 sec. engine run and 3 min. max, with 9 sec. flyoff engine run) and Cat. 3 (7 second engine run and 2 min. max, with 7 sec. of flyoff engine run.) would be structured similarly with tie breaker engine runs of 4 and 3 seconds.

At this point this proposal is for purposes of discussion only, and you are encouraged to give some feedback.

As you can see, this would definitely open up the possibilities of tactical flying, plus it would add a performance quotient. It may make the models we now see in the gas events into anachonisms, but anyone can surely see the stimulation as necessary to ensure the health of the gas event. Without something happening, it will surely croak.

It would be lot of fun.

Anyhow, let's at least talk about it.

Builder of the model rule. Do we need it?

Almost everyone has an opinion on this one. What was the reason for the BOTMR in the beginning? It probably came about to keep young and untrained flyers from having their models built by their fathers so that they could have a better chance of winning over their friends with unskilled fathers. Maybe a good idea at that time. Is it still a good idea? Probably not. The enforceability issue is one of the main problems. A contest director never knows whether or not the competitor has built his model. How much of the construction has to be done by the builder? How do you police that? Ninety percent of the models are built from scratch now as opposed to about ten percent many years ago. In RC the BOTMR says that the flyer must build at least as much as in the average kit. The trouble with that is the average kit gets more and more pre-built all the time. Glass fuselage, foam wing, stab and rudder, pre-hinged surfaces, installed retracts, etc. How shall we decide in the future what is or is not acceptable, and who is going to look after it on the contest field? I doubt that very many contest directors would like to have the job. When a modeler decides to quit, or it is decided for him, his models are essentially worthless. Wouldn't it make more sense to give or sell them to someone who has not flown free flight and let them sample the joys of flying free flight. The chance that the neophyte will win with this model is slim at best. As he builds confidence and skill he will become more like the rest of us and win his share. What is the matter with that. If he beats you, it will make you work harder to see that you win instead. What's wrong with that? Nothing. The BOTMR does nothing to further the sport in today's world.

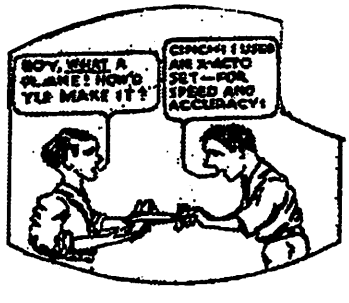
The FAI recently did away with theBOTMR, (it has its detractors for sure) and the result has been generally good for the sport. More flyers flying better models and the competition is very close as a result. It gives competitors a way to be competitive without investing in the necessary inventory of carbon pre-preg, the oven, and learning the technology (which takes a while) to become competitive. This is not to say that you can't do this, but at least you have the choice. Let's face it folks, the act of building a model airplane is not rocket science. It is not difficult to do, and the fact that you choose not to build your own wing or other parts should not make you unworthy of competing with those who do, and you can bet that there are a few modelers out there that will do it, and win more than their share which will result in more flyers moving on to something else.

The question is . . . do we want to have AMA Gas progress into the future with technology, or do we want it to to become another form of Nostalgia with dozens of limitations.AMA Gas should be the "unlimited" event in free flight. For limited classes we have Old Timer, Nostalgia, and FAI power.. AMA Gas is now unlimited except by displacement, but the BOTMR is limiting the technology. If we limit the high performance technology to only those who are willing and capable of doing it, we are seriously limiting the number of potential flyers which is sure to precipitate a further reduction in our numbers. Once the limitations begin, there is no end to it.

If we are going to continue with the BOTMR, we at least need to establish whether or not a set bones made of carbon fiber constitutes a kit or not. (Even if the competitor buys the bones and a fuselage tube and a fuselage front end, he is looking at about 80-100 hrs. to finish the model.) This year's nats saw the beginnings of the complaining and griping about one well-known competitor buying his carbon fiber composite wings. He did not, by the way, and he kicked butt. Which he will continue to do in the future with that model. Is every one of the modelers now involved in AMA Gas willing to build the carbon fiber composite model from scratch? Some would, most would do something else. A few would not buy the pre-built bones, most would! Should we complicate the event by not allowing certain things like high aspect ratio wings, carbon fiber, bunts, auto stuff etc., We already have Nostalgia (as well as SLOP in the future, maybe) that essentially does that.

Baseball players do not make their own gloves, bats or balls. If they did, do you suppose they would be better players? Very few race car drivers build their own cars. Golfers can buy shafts and heads of their choice and assemble their own clubs from parts available on the open market and most of them don't even do that these days because of the vast array of available equipment. All could, but all don't. 90% of the competitive shooters in America do not build their own equipment, but many of them could if they wanted to and had the equipment to do it. Sports flourish because of the availability of fine equipment that competitors can choose from. Why should we be different? Are we improving our situation or are we limiting it to the status quo of don't know and don't tell.

It's time to get real.



AUGUST 29/30 1998 C.O.F.F.C CONTEST RESULTS

Saturday August 29,1998

	F1J		A OT Pylon/Cabin		Moffett	
1st.	Bob Johannes	780 sec.	Warren Weisenback	428 sec.	Joe Williams	540 sec.
2nd.	Jack Marsh	677 "	Dan Harshman	360 "	Larry Willis	460 "
3rd.	Norman Poti	556 "	Ted Dock	354 "	Ed Sneed	300 "
	Pee-Wee 30		**A/B AMA Gas**		**OT Stk/Cab Rubber(Large)**	
1st.	Rudy Kluber	2260 Points	Norman Poti	360 Sec.	Joe Williams	540 Sec.
2nd.	Elmer Jordan	1425 "	Bob Johannes	352 "	Bob Laybourne	464 "
3rd.	None		Don Diggs	345 "	Ed Sneed	300 "
	H.H.C. Catapult		**Coupe**		**ABC Nostalgia**	
1st.	Bob Johannes	218 Sec.	Bill Reuter	121 Sec.	Keith Fulmer	360 Sec.
2nd.	Ton Jones	174 "	Fransis Sibley	22 "	Norman Poti	321 "
3rd.	Shean Chocran	127 "	Walley Mumper	15 "	Bob Edelstein	320 "

Sunday August 30,1998

	1/2A AMA Gas		Mulivhill Rubber		1/2A Nostalgia	
1st.	Keith Fulmer	360 Sec.	Larry Willis	540 Sec.	Don Diggs	548 Sec.
2nd.	Norman Poti	349 "	Walley Mumper	476 "	Gene Wicks	453 "
3rd.	Jack Marsh	315 "	Bob Laybourne	343 "	Keith Fulmer	425 "
	AMA OHL Glider		**.020 Rep/1/4A Nostalgia**		**C/D AMA Gas**	
1st.	Bill Reuter	103 Sec	Elmer Jordan	357 Sec:	Bob Johannes	1950 Sec.
2nd.	Don Diggs	103 "	Jack Marsh	298 "	Joe Mekina	900 "
3rd.	Joe Mekina	100 "	Bob Edelistein	236 "	Richard Colvault	870 "
	OT B/C Plyon/Cabin		**OT Stk/Cab Rubber(Small)**		**P30 Rubber**	
1st.	Bob Edelstein	329 Sec.	Larry Willis	469 Sec.	Dave Sechrist	340 Sec.
2nd.	Warren Weisenback	327 "	Jim Bethea	426 "	Mike Roberts	327 "
3rd.	Elmer Jordan	251 "	Don Diggs	314 "	Roger Lane	325 "

JUNIOR

	AMA H.L.G		1/2A AMA Gas		P30 RUBBER		AMA H.H.C.	
1st.	Jason Poti	107 Sec.	Jason Poti	313 Sec.	Billy Reuter	56 Sec.	Jon Reuter	135 Sec
2ND	Billy Reuter	105 "	None		Jon Reuter	55 "	Billy Reuter	109 "
3RD	Jon Reuter	74 "	None		None		None	

JUNIOR HIGH POINT Billy Reuter Jr.

POWER CHAMPION ----

1ST Norm Poti $100 Gift Certificate
2nd Keith Fulmer $50 Gift Certificate

NON POWER CHAMPION ----

1ST Bill Reuter $100 Gift Certificate
2ND Billy Reuter Jr. $50 Gift Certificate

OCT. 17 & 18, 1998 --- CIA FALL SCRAMBLE FF RESULTS

NON-POWERED CATEGORY

HAND LAUNCHED GLIDER

Don Diggs	280
Moe Whittemore	137
Don DeCook	99
Lee Campbell	86
Dave Dobbs	80
Keith Barnett	66
Larry Willis	63
Elmer Jordan	61
Roger Staton	55
Bruce Barnett	50

HAND HELD CATAPULT

Bruce Barnett	208
Joe Mekina	190
Nick Walton	165
Gene Wicks	144
Lee Campbell	126
Moe Whittemore	126
Dave Dobbs	105
Guy Scott	103
Larry Willis	97
Roger Staton	90
J.B.M. Griner	85
Keith Barnett	70
Bob Perkins	17

RUBBER POWERED CATEGORY

P-30

Don DeCook	305

FIG - COUPE d'HIVER

Ed Konefes	217
Nick Walton	30

MULVIHILL

Ed Konefes	344
Don DeCook	187
Nick Walton	120
Larry Willis	116
Keith Barnett	74

HELICOPTER

Roger Lane	52

BOSTONIAN (14gm)

Roger Staton	59

GAS POWERED CATEGORY

PAYLOAD

Elmer Jordan	219
Roger Lane	155
Bill Barr	90

1/2A GAS

Gil Morris	340
Keith Barnett	122

A GAS

Gil Morris	356

B GAS

Steve Frazier	121
Don Diggs	99

C GAS

Gil Morris	349

GAS

Don Diggs	64

NON-AMA CATEGORY

1/2A CLASSIC POWER

Don Diggs	272
Gene Wicks	229

ABCD CLASSIC POWER

Keith Hoover	189

1/2A NOSTALGIA GAS

Elmer Jordan	273
Don Diggs	267
Gene Wicks	261
Don Boyer	210

1/4A NOSTALGIA GAS

Roger Lane	232

020 REPLICA

Dave Dobbs	17

010 GAS

Bill Barr	183

PEE WEE 30

Elmer Jordan	1883
Bill Barr	1663
Chris Steinebach	1201

ABC OT PYLON

Ted Dock	315

ABC OT CABIN

Ted Dock	120

OT RUBBER

Larry Willis	729
Bob Watson	540
Nick Walton	120

ALL EVENT WINNERS

Received $4.00 cash in lieu of 1 oz. Muncie Model Supply CA due to some winners leaving early Sunday before Muncie Model Suppy opened.

TROPHY CHAMPIONS & CASH AWARD

GRAND CHAMPION OPEN

Don Diggs	($35)	1300 points
Elmer Jordan		825
Nick Walton		700
Larry Willis		569
Gene Wicks		558

GRAND CHAMPION Jr-Sr

Keith Barnett	($35)	308 points

NON-POWERED

Bruce Barnett	($35)	1300 points
Don Diggs		900
Moe Whittemore		736

RUBBER POWER

Ed Konefes	($35)	700 points
Don DeCook		350
Nick Walton		266

GAS POWER

Gil Morris	($35)	400 points
Elmer Jordan		300
Steve Frazier		200

NON-AMA EVENTS

Elmer Jordan	($35)	800 points
Larry Willis		300
Bill Barr		300
Gene Wicks		233

2nd ANNUAL SCRAMBLE SUFFERS FROM WIND AND RAIN, BUT HAS MILD TEMPERATURES.

Many thanks to the 34 contestants that entered the contest. And my admiration for the 24 contestants who put up many flights in the 15 to 25 mph winds. Gil Morris flew 3 AMA Gas events in the worst of the wind with power patterns that seemed almost unaffected by the wind. Very impressive. Many contestants left early Sunday during the rain and missed the "scramble" part of this contest from about 2:00 to 3:30 when the rain stopped and wind died to about 5 mph. Don Diggs took advantage and wrapped up the Open Grand Champion award. Joe Mekina flew Catapult finding lift on his last flight at about 3:30PM. It looked as if he was going to knock Bruce Barnett out of 1st place but spun in due to turbulence taking 2nd.

Many thanks to George Emmelman and Vicki Wicks for organizing and putting on the **Bean Feed** Saturday evening at the pravillion by the control line pattern circles. 40 + people chowed down on good old fashioned ham & beans, various side dishes, and deserts. I heard a rumor that this is planned to be a regular part of the CIA Fall Scramble.

Thermals and light Breezes.

Richard Covalt, CD 10/18/98
98srmre1.doc

1998 CIA AREA FREEFLIGHT CONTEST CALENDAR

Nov	1	MECA Collecto	Columbus, OH
Nov	28	R/C Swap Meet	Muncie, IN

The **INFORMER**

2348S, 700W
New Palestine,
IN
46163

1998 President
Mark Wood

Vice President
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