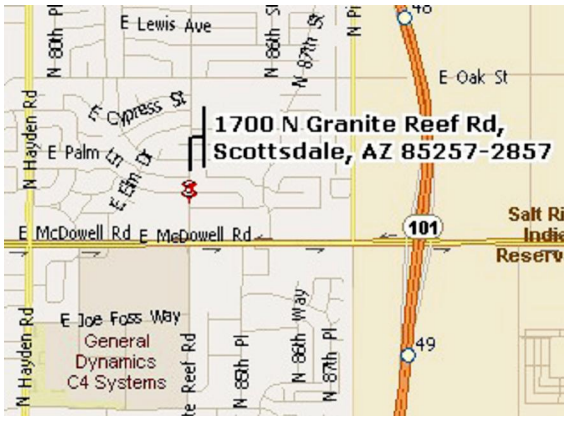
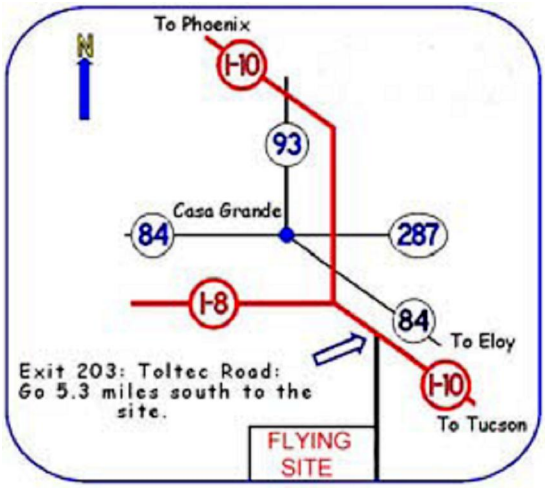
PHOENIX MODEL AIRPLANE CLUB

HAVING FUN WITH MODEL AIRPLANES SINCE 1937

VOLUME 16 NUMBER 5 ***MAY 2011***





NEXT MEETING
Tuesday May 10th
07:00 PM
Granite Reef Senior Center
1700 N. Granite Reef Rd.
Scottsdale, AZ

NEXT CONTEST
"HOT STUFF"
Saturday
May 21st
WEBSTER FIELD
ELOY

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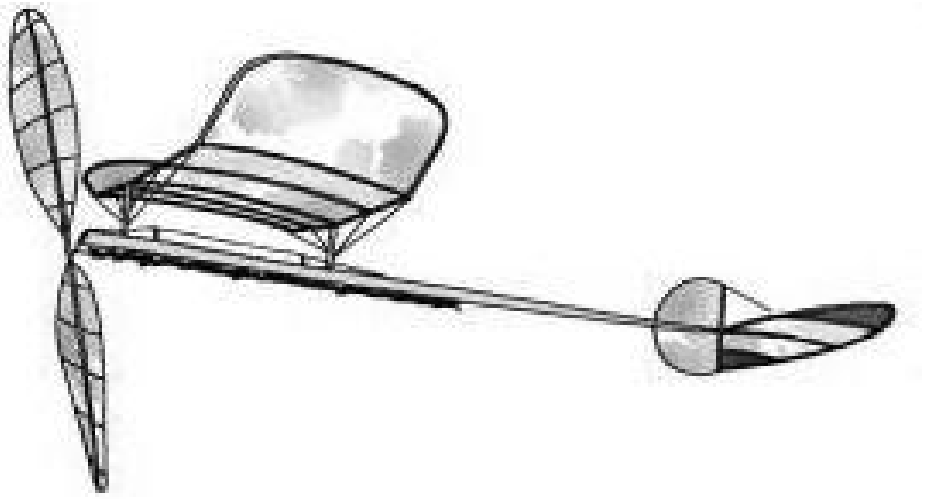
PREZ SPEAKS

The two page article from a recent NFFS Digest describes a club scoring system developed by the Denver club. Itôs called ñScrambleò They use this to crown their club champion. Itôs more complicated than this, but it essentially gives each contestant the chance to fly any model of any class against all other models flown during that contest. Each person can also fly as many different classes as he wishes to (such as P-30, A gas, HLG, etc) to achieve his very best score for that contest. Only one of the contestants models is counted. After times are normalized, they are then rank ordered from best to least and points are awarded ï top gets 100% and all others get a proportional weight. Since points for the club champ are given for only one of the models each person flies, it is a system that crowns the winner for skill only and not a combination of skill and activity that our current system does. At our last meeting, the Scramble system was proposed as a new scoring system to replace our current system starting in 2012. Like in any system, there are pluses and minuses. No up or down vote was taken. It is fair to say that the proposal resulted in a very active discussion and there were strong voices for and against. Please read the article. At some point we quite likely will work up some modifications to our current system. I personally see good results with our current system but it never hurts to take a look at alternatives.

Last night I got an interesting call. We have been offered the use of an indoor dome to fly indoor models. This dome has a 104 foot ceiling. It is a geodesic dome with a diameter of 440 feet. This is the Round Valley Dome located in Eagar, AZ east of Springerville. In round numbers it is about 200 miles NE of here near the NM border. There apparently is space to fly outdoors as well. Letôs think about this as a nice cool summertime event. Eagar is at 7,000 feet elevation.
Elmer Nelson



The Scramble: A Free Flight Solution

building interest during the contest. Another secret ingredient: This simple score sheet was developed by Rick Pangell, our *Maxout* newsletter editor. He has developed the Excel Spreadsheets that include the monthly and also a season to date standing which are published the week following the contest. This is also important if you want to build competitive interest in the membership. Rick has volunteered to send along his worksheets to any club that wants him. His

MMM 2010 Scramble SUMMARY

BEST 5

	ENTRANT	Total Pts	4/18/10	5/16/10	6/13/10	7/25/10	8/15/10	9/26/10	10/10/10	11/7/10
1	Covington, Mark	499		99			100	100	100	100
2	DeLoach, Don	431	100	100			96		73	62
3	Sisk, Marc	332	36			100		97		99
4	Myers, Neil	304	42	67			77		73	45
5	Pangell, Rick	120					71		49	
6	Reynolds, Randy	119	7	48				64		
7	McQuade, Pete	111	38	73						
8	Reynolds, Todd	109		40				69		
9	Hjerlied, Duane	103	69							34
10	Murphy, Jerry	102	43	28						31
11	Gray, Mel	94	18				76			
12	Monda, Eric	85	27	58						
13	Tyler Portenier (jr)	79					56		23	
14	Etherington, Chuck	58		58						
15	Lovins, Bill	40	40							
16	Roland Solomon	31		17					14	
17	Boyd, Ray (Sr)	29							29	
18	Jones, Darold	28		28						
19	Frawley, Norm	18	18							
20	King, Troy	18	18							
21	Gayle Jackson	10	10							
22	Majors, David (jr)	7	7							

email address is: <themaxout@aol.com>.

So what are the results? We now have a lot more action on the field and you can feel the energy as contestants are calculating the standings and planning their strategy. For once we had power flyers watching the glider pen and FAI flyers looking to their laurels. More participation, more fun and at the end of the season the membership enthusiastically voted to keep the Scramble going. The only change was to use the best five out of eight monthly contests for the season standings. This allows someone to miss a contest or two without sinking your chances of winning. We concluded that this might also cause someone to participate more earnestly in the Scramble season.

Just to editorialize for a moment. MMM isn't a club that has any heated competitions and that isn't the goal of the Scramble. But it has been proven many times that friendly competition keeps a club healthy and participating. Not only that but competition definitely sharpens the club's focus and your personal flying skills.

There are of course some issues that need to be addressed if your club wants to fly a Scramble. First might be the events that use escalating max times such as Classic Towline or Nostalgia Wake/Rubber, or escalating fly off maxes as in Mulvihill and Cat III AMA Gas. From the beginning we decided that we would simply fly either two or three minute maxes all the way through the event including the fly-offs. We also decided to keep the engine runs the same after the first three flights (runs stay at 9 seconds for Cat. II AMA Gas for example). This keeps things simple to be sure. But what about flying for the National Cup or Club records where adherence to national AMA rules are necessary? This is pretty easy to fix by allowing the competitor to fly say a four-minute max although only three minutes is called for in the Scramble. All that is needed is for the scores to be noted so that proper scores can be forwarded.

Another advantage of the Scramble is that with some willingness to be a bit creative almost any event can be flown in the Scramble including Old Timer, Nostalgia, FAI and any AMA event you can think of. Our local SAM 1 club, one of the legendary old timer organizations in the country has reviewed the Scramble event and there has been a fair amount of interest in getting the old birds (I really do mean the models) out to the flying field to compete with all the other classes.

So if your club could use a bit more participation to rejuvenate the action then give the Scramble idea a try. Any of us who have managed this event will be very willing to help and to hear of your experiences with it.

Randy Reynolds, Colorado Springs, Colo.
carranrey@gmail.com

Randy Reynolds

The Scramble: A Free Flight Solution

The Magnificent Mountain Men (MMM) is a very active club flying models ranging from Old Timers to the latest FAI birds. At a typical monthly contest we will have will have between 12 and 18 contestants. Our big annual contests, The FAI Fourteen Rounder and the Rocky Mountain Free Flight Championships will draw as many as 60 flyers. Over time our monthly contests have evolved to "trimming contests" and the competition level has been quite low since it is not uncommon to have say 80% of the members each flying different events. While we have created some club events such as 2-minute Combined to try and produce more competitive interest, the participation continued to be very laid back. Not only that many of us spent as much time under the EZ-Ups as we did actually flying. Sound familiar?

At our annual meeting we came up with the Scramble event, which would only be run at our monthly contests. This is a very simple idea where any model can be flown against any other regardless of event rules because we have "normalized" the max times. A two-minute max is in effect equal to a three-minute max. That means that my catapult glider max is equal to an F1C's three-minute max. This is accomplished by categorizing all events into one of three sections: 1) Three minute max events 2) Two minute max events and 3) Small glider (Hand Launch and Catapult Glider). Note that the small gliders get their own category because they have six opportunities to make three maxes rather than only three opportunities in the other two categories.

MMM MONTHLY CONTEST DATA SORT FOR SCRAMBLE RESULTS

													BFS =	3.59
	DATE	Min	ENTRANT	CLASS	Flt 1	Flt 2	Flt 3	F/O 1	F/O 2	F/O 3	# MAXES	MAX TIME	SCRAMBLE TIME	FACTORED SCORE	SCRAMBLE POINTS
1	5/16/10	3 Min	Don Deloach	A Gas	180	180	180	107	0	0	3	180	647	3.5944	100.00
2	5/16/10	SG	Mark Covington	HLG	120	120	120	69	0	0	3	120	429	3.5750	99.46
3	5/16/10	3 Min	Pete McQuade	F1A	115	180	180	0	0	0	2	180	475	2.6389	73.42
4	5/16/10	2 Min	Eric Monda	FAC Moth	120	120	69	0	0	0	2	120	309	2.5750	71.64
5	5/16/10	SG	Neil Myers	HLG	77	99	0	0	115	0	0	120	291	2.4250	67.47
6	5/16/10	SG	Mark Covington	CLG	0	0	79	107	0	89	0	120	275	2.2917	63.76
7	5/16/10	3 Min	Chuck Etherington	F1C	180	93	103	0	0	0	1	180	376	2.0889	58.12
8	5/16/10	SG	Neil Myers	CLG	0	54	120	64	0	0	1	120	238	1.9833	55.18
9	5/16/10	SG	Don DeLoach	HLG	75	95	57	0	0	0	0	120	227	1.8917	52.63
10	5/16/10	SG	Randy Reynolds	HLG	0	44	80	0	82	0	0	120	206	1.7167	47.76
11	5/16/10	SG	Todd Reynolds	HLG	0	56	93	23	0	0	0	120	172	1.4333	39.88
12	5/16/10	2 Min	Jerry Murphy	P-30	120	0	0	0	0	0	0	120	120	1.0000	27.82
13	5/16/10	2 Min	Darold Jones	P-30	32	78	0	0	0	0	0	120	110	0.9167	25.50
14	5/16/10	3 Min	Roland Solomon	F1C	109	0	0	0	0	0	0	180	109	0.6056	16.85

Author and his O.S. .15 powered Ramrod for the NFFS Vintage FAI Power event.
Photo by Don DeLoach

You can see that we equalize by multiplying the 2-minute scores by 150% so that they equal the three-minute scores. Note also that a flyer can enter a flyoff after recording three maxes and he keeps flying until he drops. Each flyer's seconds/points are totaled and then equalized as above by multiplying two-minute scores by 150%.

The winner is then are awarded 100 points and all other flyers are awarded a percentage based on that. E.g., if the winner has 100 points and my score is only 70% of that then I'm awarded 70 points. Believe me this is much harder to explain to do at the flying field. None of our contestants have had any problems with it at all.

An important feature is the on-field scoreboard. We have this sheet blown up so it will fit on a two by three foot board. It is taped down so that it won't blow away. What this does is to allow all contestants to see where they stand and this is a key to

I-10 Challenge April 10, 2011

There was some concern whether our field would be dry enough for flying as there was some good rain in Eloy on Saturday, Apr. 9. When I arrived at the field at 7:00 AM, Steve and Bonnie Hesla were already waiting at the entrance. The ground looked dark brown and as I drove in the wet surface was sticking to the tires. With the easterly winds I established a N-S flight line close to the ditch at the West field.

At the start of the contest at 8:00 AM it was a cool 45° with not much drift as the sun started to dry the ground surface. During the contest 10 flyers put up flights in 21 events. With 6 maxes (6x180 sec.) Steve Hesla with his C Gas ship put up the highest score. He also garnered the most points flying a total of 4 AMA Gas events.

Around noon the wind speed had picked up and we had gusts up to 9 mph. The wind was now more out of the NW. When the contest ended around 1:00 PM the field was nearly dry with a temperature of 65°.

This traditional contest again pitted the Phoenix area freeflighters against the ones residing around Tucson. Per Elmerôs points compilation Phoenix beat Tucson 243 to 220!

Peter Brocks, CD

I-10 Challenge
4-10-2011

AMA/Classic Gas (All engine classes) **Points**

Contestant Name	Event	Flt 1	Flt 2	Flt3	FO 1			Total Time	Time	Maxes	Flights	Total
Steve Hesla	AMA C Gas	180	180	180	180	180	180	1080	8	30	10	48
Steve Hesla	C/D Classic	180	180	180	155			695	6	15	10	31
Steve Hesla	A/B Classic	180	180	138				498	4	10	10	24
Steve Hesla	AMA A Gas	180	128	180				488	2	10	10	22

Nostalgia Gas/OT Gas Combo **Points**

Contestant Name	Event	Flt 1	Flt 2	Flt3	FO 1	FO2	FO3	Total Time	Time	Maxes	Flights	Total
Dick Nelson	OT C Gas	180	180	180	180			720	8	20	10	38
Dick Nelson	A Nos	180	180	180	135			675	6	15	10	31
Dick Nelson	B Nos	180	33					213	4	5	6	15
Dick Nelson	OT A Gas	180						180	2	5	3	10

2 Minute Combo (F1G/H/J, .020 Replica, P-30, P-20, Rocket, Embryo **Points**

Contestant Name	Event	Flt 1	Flt 2	Flt3	FO 1			Total Time	Time	Maxes	Flights	Total
Peter Brocks	Coupe	120	120	106				346	10	10	10	30
Tom Gaylor	P-30	88	120	120				328	8	10	10	28
Kent Prescott	P-30	120	112	57				289	6	5	10	21
Bruce Grawburg	P-30	78	62	21				161	4	0	10	14
Tom Gaylor	Embryo	71						71	2	0	3	5

3 MinRubber/Glider Combo (Mulvihill, Moffett, OT Rub, Nos Wake/Rubber, Classic Tow) **Points**

Contestant Name	Event	Flt 1	Flt 2	Flt3	FO 1			Total Time	Time	Maxes	Flights	Total
Dick Strang	Large Stick	180	180	180				540	14	15	10	39
Jean Andrews	OT Fus Rubber	113	120	143				376	12	0	10	22
Jean Andrews	Comm Rubber	67	90	109				266	10	0	10	20
Tom Gaylor	Nos Rubber	80	88	82				250	8	0	10	18
Bruce Grawburg	Small Cabin	57	180					237	4	5	6	15
Kent Prescott	Small Stick	116	122					238	6	0	6	12
Elmer Nelson	Small Stick	43	41					84	2	0	6	8

3 Minute FAI Combo (F1A/B/C/P/Q) **Points**

Contestant Name	Event	Flt 1	Flt 2	Flt3	FO 1			Total Time	Time	Maxes	Flights	Total
								0				0

Catapult /HL Glider Combo

Contestant Name	Event	Flt 1	Flt 2	Flt3	Flt 4			Total Time	Time	Maxes	Flights	Total
Ben Nead	HLG	34	15	14				63	2	0	10	12

2011
PMAC- TFFC
Contest Category Ladder

	2/20/2011	3/19/2011	4/10/2011	TOTAL
AMA/CL Gas				
Steve Hesla		67	125	192
Dick Nelson	22	21		43
Jean Andrews		5		5
Nos/OT Gas				
Dick Nelson		98	94	192
Steve Hesla		52		52
Jean Andrews		28		28
3 Minute Rub/Glider Combo				
Jean Andrews		28	42	70
Dick Strang			39	39
Tom Gaylor		15	18	33
Bruce Grawburg		16	15	31
Kent Prescott		5	12	17
Elmer Nelson			8	8
3 Minute FAI Combo				
Peter Brocks		29		29
Dick Wood		10		10
2 Minute Combo				
Tom Gaylor		41	33	74
Peter Brocks		33	30	63
Kent Prescott			21	21
Bruce Grawburg			14	14
Jean Andrews		10		10
Henry Werner	5			5
Cat/HL Glider Combo				
Ben Nead			12	12
Junior Totals				
				0

2011
Overall Contest Ladder Summary

	2/20/2011	3/19/2011	4/10/2011	Total
Dick Nelson	22	141	94	257
Steve Hesla		119	125	244
Jean Andrews		71	42	113
Tom Gaylor		56	51	107
Peter Brocks		43	30	73
Bruce Grawburg		16	29	45
Dick Strang			39	39
Kent Prescott		5	33	38
Dick Wood		29		29
Ben Nead			12	12
Elmer Nelson			8	8
Henry Werner	5			5

Pitch, Roll and Yaw

Dick Nelson

In the beginning all the cards were on the table. Everyone expecting to be the first to fly knew he needed a power plant, some sort of an airscrew fastened to the crankshaft, wings like a bird, some wheels or skids and a place to sit. Later, the idea to get the nose pointed up and down was thought to be necessary and the ability to turn seemed reasonable too. So, in their plans, most all wannabes put movable surfaces at the rear and the operating handle near the seat. All except the Wright brothers; they alone had that ace in the hole.

As bicycle guys, they proposed that you had to lean in the direction of the turn. You didn't just move the handlebars. First you leaned and then carefully swung the handlebars in the same direction, coordinating both according to the speed at which you were moving. This complicated things immensely, but they flew captive gliders which confirmed their thoughts and subsequently paved the way for wing warping on their first manned airplane. Warping the wings, we now know, was roll control. Pitch control was done with horizontal moving surfaces and yaw control with vertical surfaces.

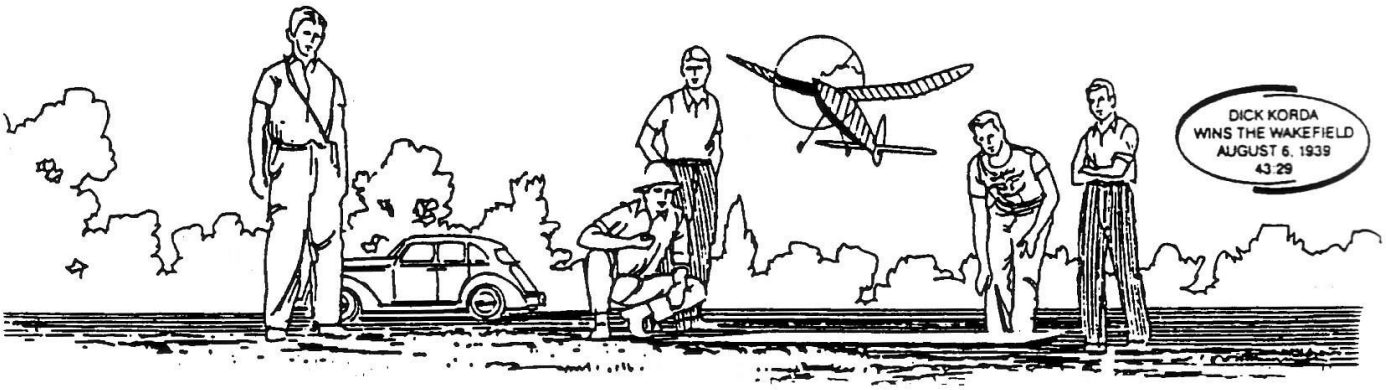
As dedicated freeflight flyers, we do it the same way except our roll control is fixed. We simplify it by building in the wing warps. We move our horizontal stab up and down for pitch control and use a vertical rudder tab to control yaw. The same method Wilbur and Orville used is simple and clean. In a good contest model, ground adjustments in these two surfaces are all we need to get a beautiful climbing spiral that will lead to a repeatable, no stall transition to glide. The difficulty comes in identifying which surfaces to adjust.

First, a few words about torque. Torque is the force opposite the rotation of the propeller. Newton's Third Law of Motion is, "Every action has an equal and opposite reaction". This law has not been repealed. Therefore, the torque force wants to roll the airplane counter clockwise as viewed from the pilots' seat, the same direction as the roll necessary for a right hand climbing spiral. The torque force is not right or left (yaw) or up and down (pitch) and cannot be supervised by tweaking the stab or rudder tab position, although many try to do so.

We build in roll control primarily so that we don't have to adjust it. It also simplifies construction. Tiny amounts of warp built into the wing structure before covering do a marvelous job. Leaving out pitch control for a moment, the roll/yaw coordination required is quite straightforward. If we want to climb to the right, we want the right wing to rise in the climb (roll) and the yaw to aerodynamically drive the nose to the right to keep it headed in the same direction relative to the roll. That "best" climb comes when we are able to separate yaw and roll in our head and then adjust yaw with the rudder tab for the amount of built-in roll.

Pitch control is used to keep the coordinated roll/yaw forces in the correct climb attitude for the amount of power available. A continuous tight barrel roll about the vertical is a good example of the correct amount of yaw required for the amount of roll we built into the model, but it makes for hammerhead stalls and the consequent poor glide unless we also use timer actuated pitch and yaw surfaces at precise moments. A wide-circling, slightly nose up, fast climb gaining little altitude may also be a good example. The difference in the two is in the amount of pitch control. The barrel roller could use less pitch (negative), the wanderer needs more (positive). Positive is nose up, but watching the model and its pattern can fool even the most experienced flyer. The most important concept is that each force is very much independent of the other and is easily controlled by the one adjustment commited to that force. That is the easy part. The hard part is in recognizing which force needs to be altered and by how much.

Left climbs fight the torque, so if we choose that, we build in an otherwise unnecessary complication. Different configurations of models with different engine locations, thrust lines, pylon heights, wing planforms, etc. make for differing looks, but no difference in the effect of torque or the method of force control. Since torque is constant in the climb, roll due to torque is hardly ever noticed except on smaller rubber models with big props and lots of rubber and then only immediately after launch. Torque is not seen after the first few feet of climb on a healthy sized contest model with a powerful engine running smoothly because the aerodynamic forces are changing with airspeed and are much greater than the constant torque force.



NOVICE PENNYPLANE

REV Jan '90

WING:
- LE 1/16 sq-round nose
- TE 1/16 sq
- TIPS 1/16 sq to .04
- RIBS 1/32 x 1/16 with 12" arc
- POSTS 1/16 Round

STAB:
- LE .05 x .04 -round nose
- TE .05 x .04
- TIPS .05 x .04 taper to .03
- RIBS 1/32 x .05, 18" arc

STICK:
- 3/16 x 1/4; taper both ends to 1/8 x 3/16

BOOM:
- 3/16 x 1/8 taper to 1/16 sq

PROP:
- 12" Dia, 22" Pitch,
- HUB: 4", 1/8 round, taper to 1/16
- BLADES: 1/32 sheet, thinned out at tips
- WIRE .020" or .025"

COVER:
- Microlite or any thin plastic film - thinned rubber cement

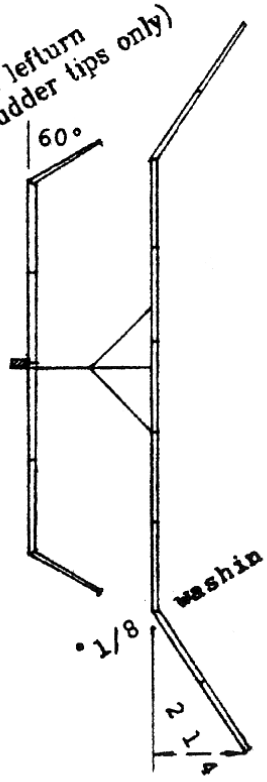
WEIGHTS:

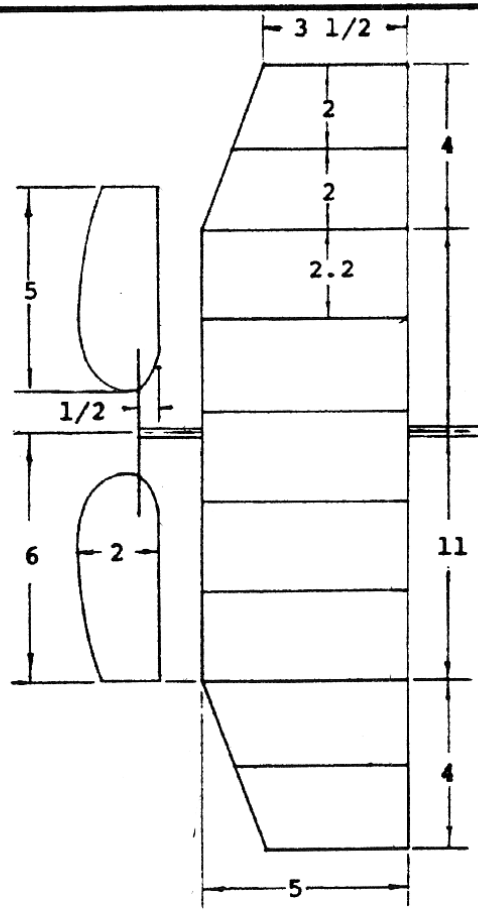
Wing	.031
Prop	.023
Rest	.058
Total	.112 oz

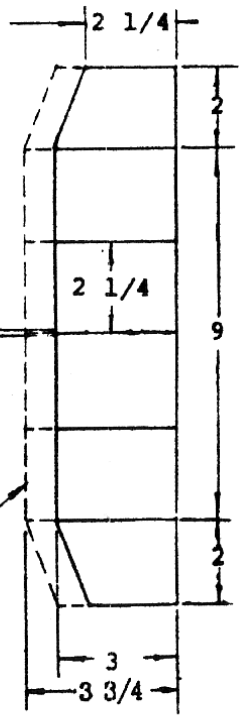
RIBS & PROP BLADES ARE SOFT BALSA; ALL ELSE IS MEDIUM.

NOTE: soak/form/bake blades on one gallon glass jug at angle of 17°. Glue to hub so that at 3.5" radius, 45° angle is formed.

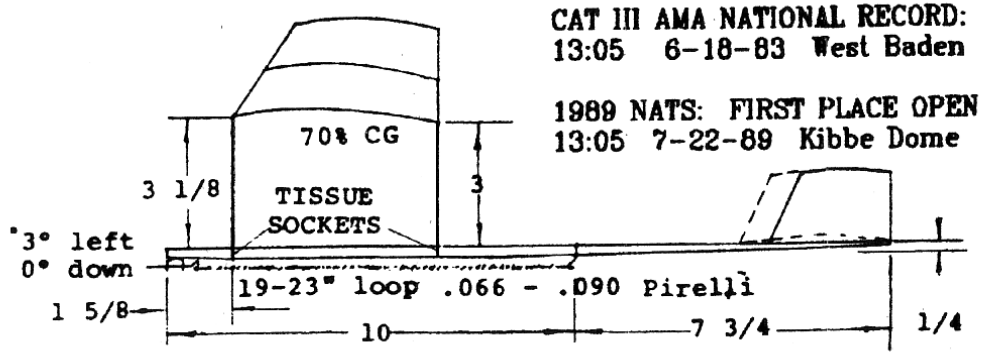
Drawn by Keith Varnau







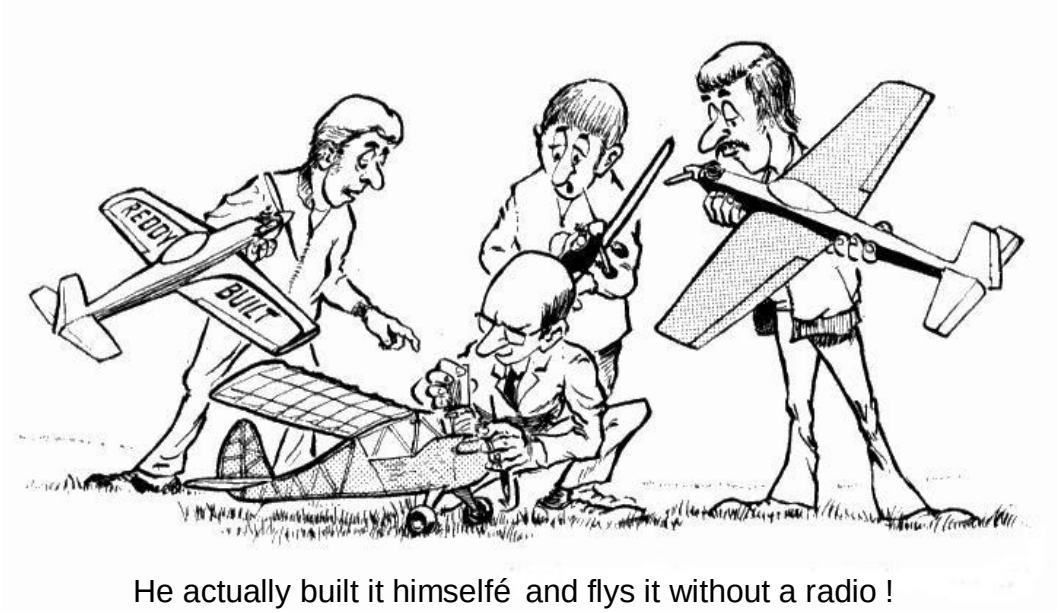
•IMPORTANT ADJUSTMENTS



by CEZAR BANKS
NOVICE PENNYPLANE

CAT III AMA NATIONAL RECORD:
13:05 6-18-83 West Baden

1989 NATS: FIRST PLACE OPEN
13:05 7-22-89 Kibbe Dome



He actually built it himselfé and flys it without a radio !

NEXT MEETING

Tuesday May 10th
7:00 P.M.
Granite Reef Senior Center
1700 N. Granit Reef Rd.
Scottsdale, AZ

NEXT CONTEST

"HOT STUFF"
Saturday
May 21st
WEBSTER FIELD
ELOY

Phoenix
MODEL AIRPLANE CLUB

Steve Riley
605 La Casa De Prasa Dr. S.E.
Rio Rancho, New Mexico 87124