BIGGEST EVER

THE HANGAR PILOT

15TH YEAR of PUBLICATION

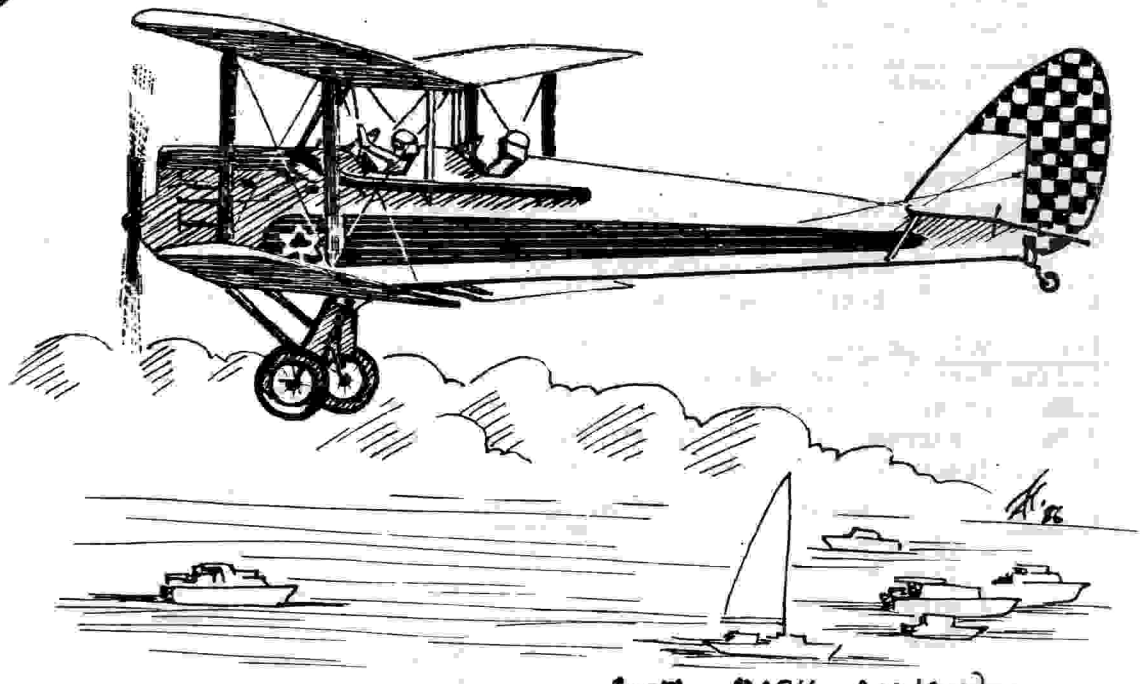
MIAMI INDOOR AIRCRAFT MODEL ASSOCIATION M.I.A.M.A

ISSUE 115

APRIL - MAY 1987

AMA

- RESULTS MEETS
- NEW FLA. STATE CHAMP
- SHONO! PEANUT ENTRY
- RICHMOND WORLD BEATER



From MARK ALLISON

NEXT MEET

MAY 16+17 MIAMI DADE S. COLLEGE 9-5

ANNUAL ARAK OUTDOOR MEET → NEXT ISSUE

ANNUAL DINNER MEETING



THE HANGAR PILOT

Is published 8 (or 9) times a season for a bunch of middle aged guys who refuse to grow up. MIAMA (Miami Indoor Aircraft Model Association,) AMA Club 986, is the only active all indoor free flight club in AMA. Our Mottos:"It must be fun.", and"Indoor isn't for everyone." For $10.00 a year you will receive all copies. We solicit your contributions since we are always running out of material. Letters, plans, 3-views, articles, gripes, and Money to:
Dr. John Martin Pres./Editor. 2180 Tigertail Ave. Miami, Fla.33133 USA
Phone: 305-858-6363 We want to hear from you!!!Send material!!!

RESULTS MEET 5

DICK OBARSKI - DAVE LINSTRUM
APRIL 11+12 MACDILL AFB

Peanut Scale event:		Static	2 best flight		Av.	Total
1.Rich MacEntee	Lacey	86	1:36.7	1:33.7	Max.86	172 Retired!
2.John Martin	Polish Canard	85.3	1:13	1:13.6	73.3	158.6
3.Keith Fulmer	Lacey	82.4	1:14	1:09	71.5	153.9
4.Nancy Beitz	Waco E	88.0	61.8	64.7	63.2	151.2
5.Charles Slater	Jenny monoplane	74.4	1:12	1:15	Max.74.4	148.8
6.Millard Wells	Mr.Pete	87.2	45.5	42.5	44	131.2
X "	" Fokker tripe	90.1	30.6	42	36.3	126.4
X " "	" Beech Stagger Wing	78	34.3	34.4	34.4	112.4

Flying ACES Scale:		Stat.	Best flight	Total
1.John Martin	Drweisweiki can.	78	1:12.3	144.1
2.Millard Wells	Waco E	69	1:04.5	133.5
3.Dave Linstrum	Dornier Ambul.	50	1:24	122.0
4.John Tudor	Heinkel 100	69.7	:52	121.7

Easy B:
1.Dick Obarski 14:12
2.Ed Berton 11:13
3.Tony Becker 11:00
4.Rich MacEntee 10:11
5.Chas. Slater 9:41

ROG Stick: 1 J.Martin 3:18

Manhattan: 1.M.Wells 6:04

Novice Penny:
1.Chas. Slater 8:59
2.Tony Becker 8:27
3. Ed Berton 8:13
4.Rich MacEntee 7:55
5.Bill Criss 4:01

ORNOTHOPTER: Frank Kieser 6:04

BOSTONIAN:

		Charis.	Fly	Total
1.Millard Wells	Wee Bee	1.2		270
2.R.MacEntee	BB	1.2	1:44 1:49	255.6
3.John Martin	14-Bis	1.3	1:37 1:39	254.8
4.Dave Linstrum		1.1	1:20 1:29	186.2
5.John Tudor	Mistair	1.5	59 56	173
6.Keith Fulmer	B.Whaler	1.1		160.1
7.Dick Obarski	Variant	1.4		106.4

EMBRYO:
1.Dave Linstrum 3 best fly: 302.8
2.Bill Criss 154.2
3.Rich MacEntee 138.2

PISTACHIO:
1.Frank Kieser Orno 2:10
2.Millard Wells WeeBee 1:10

CONGRATULATIONS - A FIRST: TWO FLORIDA STATE CHAMPS

RICH MACENTEE + GEORGE LEFFLER IN TIE!

Meet 5 was almost an anti-climax, but turned out to be very exciting after all. The big shoot out never materialised because George Leffler's wife was ill and he could not get his air fleet prepared. Although he made a token appearance on Saturday he didn't log any flights so it was up to Rich MacEntee to make up the two points he was behind.. and he almost didn't do it! What a struggle. Rich had a tough time as he picked up one first, one second, a third, and two fourths for 17 annual points. and a TIE with George. We went over the results lists again and again. At one time Rich was ahead by one point, but a mistake was discovered and then he was BEHIND by one point. He picked up a point when another mistake was discovered, and a tie it remains! Very unprecedented.

The Flying Aces Mass Launch event was the most exciting in our five year history of this event. Nine starters filled the air on round one and flew and flew with nary a mid-air untill Criss's Waco E desended first.. a really pretty sight. Slater and Wells were out in round two, and Beitz and King in round three. Shepherds Rearwin out in round four and the final, between Martin's Cessna AW and John Tudor's Curtiss Robin was won by Martin 1:30 to 1:24..Loong flights!

Frank Kieser won pistachio with an ornithopter of less than 8" span that looked like a mad locust. Nancy Beitz was a first entry flying her first ever model airplane built under the tutilage of Chas. Slater. It was a Waco E peanut from Mooney plans decorated in Miami Vice color scheme of flamingo pink and silver (That got great color and marking pts.) ROG flights of over 50 sec. got her a fourth in peanut ahead of her mentor.

It is hard to imine that we can improve on the fun we had this season but we will try. Details next issue.

INTER-GNATS - TIME IS SHORT

MAY 16+17 PISTACHIO MEET. GRAB A CIGAR BOX, STICK YOUR MODEL IN IT AND MAIL IT OUT NOW! OR JUST BRING YOURS TO MIAMI DADE SOUTH COLLEGE.

③ EVERYBODY'S ANNUAL POINTS — How Did You Do?

PEANUT SCALE:

1.MacEntee	36
2.Martin	23
2.Leffler	23
4.Criss	11
5.Brimmer	1o
6.Wells	9
7.Arak	9
8.King	8
9.Miller	6
10.Shepherd	4
11.Oliver	4
12.Fulmer	4
13.Tudor	4
14.Beitz	3
15.Slater	2
16.Ottesen	2
17.Linstrum	2

MANHATTAN:

1.Wells	2
2.Markos	1
3.Ganser	1

EMBRYO ENDURANCE:

1.MacEntee	13
2.Leffler	10
3.Criss	7
4.Linstrum	7
5.Wilcosz	3
6.Markos	2
7.McGinnes	1

F.A C.SCALE:

1.Leffler	19
2.Martin	17
3.MacEntee	16
4.Wells	12
5.Tudor	8
6.McGinnes	7
7.Aronstein	6
8.Arak	3
9.Oliver	3
10.Criss	2
11.Miller	2
12.Obarski	2
13.Linstrum	2
14.Ottesen	1

PISTACHIO:

1.Wells	5
2.Kieser	4
3.Aronstein	3
4.Martin	2

BOSTONIAN:

1.Leffler	24
2.MacEntee	21
3.Martin	20
4.Wells	12
5.Linstrum	11
6.Arak	9
7.Groves	9
8.Aronstein	8
9.Tudor	8
10.Ganser	7
11.King	6
12.Brimmer	4
13.Criss	4
14.Shepherd	4
15.Markos	2
16.Fulmer	2
17.Burton	1
18.Obarski	1
19.Gaddy	1

EASY B:

1.Obarski	29
2.Becker	25
3.MacEntee	12
4.Berton	8
5.Oliver	6
6.Everson	6.
7.Chilton	6
8.Wells	5
9.Leffler	5
10.Markos	5
11.Arak	4
12.Brimmer	3
13.Slater	1
14.Martin	1

PENNY PLANE:

1.Berton	5
2.Wells	2
3.Oliver	1

NOVICE PENNY:

L.Becker	27
2.Leffler	9
3.Markos	8
4.MacEntee	7
5.Arak	6
6.Groves	6
7.Oliver	6
8.Everson	5
9.Slater	5
10.Wells	4
11.Criss	4
12.Linstrum	2
13.Shepherd	1
12.Berton	3

ROG STICK:

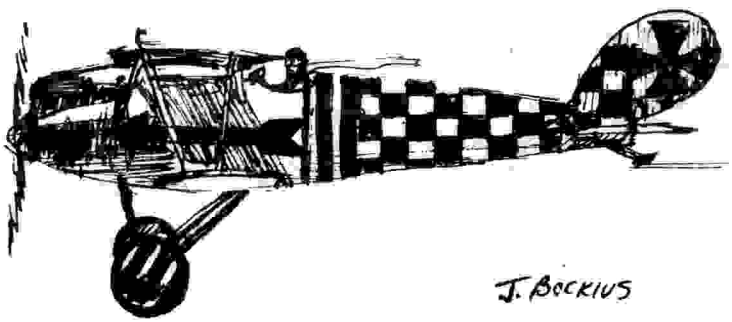
1.Obarski	5
2.Martin	3
3.King	2
4.Ottesen	1

TOP OVERALLSCORES:

1.MacEntee	86
1.Leffler	86
2.Martin	65
3.Wells	54
4.Becker	52
5.Obarski	37
6.Arak	36

If your name isn't there — Why isn't it? Perhaps it's 'cause Indoor isn't for Everyone!

Indoor is Fun! Support MIAMA!

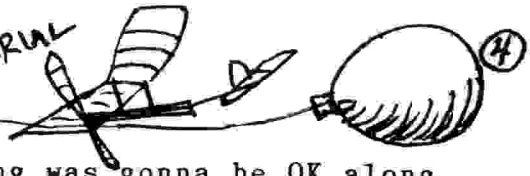


COMPLIMENT FROM ED WHITTEN:

"The Hangar Pilot isn't always readable, but it comes out regularly."

Thanx, Ed

BALLOONING EDITORIAL

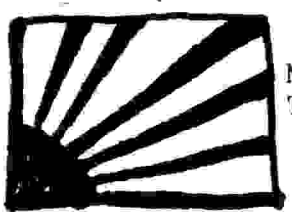


Just when we thought everything was gonna be OK along comes the great steering controversy. The biggest thing to hit indoor since somebody called West Baden Catagory IV! Just the sort of thing to get our minds off AIDS and acid rain.

The issue, guys,is this: Our AMA rules about steering indoor models seem to permit abuse so that an expert "steerer" can gain time by his steering techniques. The MODELNET communication has been burning up with commentary from Doig, Tenny, Clemens, Ogren, Lindley, and Pratt to which I now add my own comments:

To define legal steering is impossible. Rick Doig opened with 10 rules and admits it's not enough. Louie Armstrong was asked "What is Jazz? and replied,"If ya gotta ask, you ain't never gonna know." Same thing with steering. There are two kinds of steering— Good steering, and sneaky bad sport steering. For examples of good steering read the article by Jim Richmond in this issue. These two types of steering need not be defined 'cause it would take a book, and besides everyone KNOWS what sneaky steering is..especially the guy who is doing it. One saves your flight from being terminated by stuff other than the floor, and the other unfairly adds time to your flight..simple?

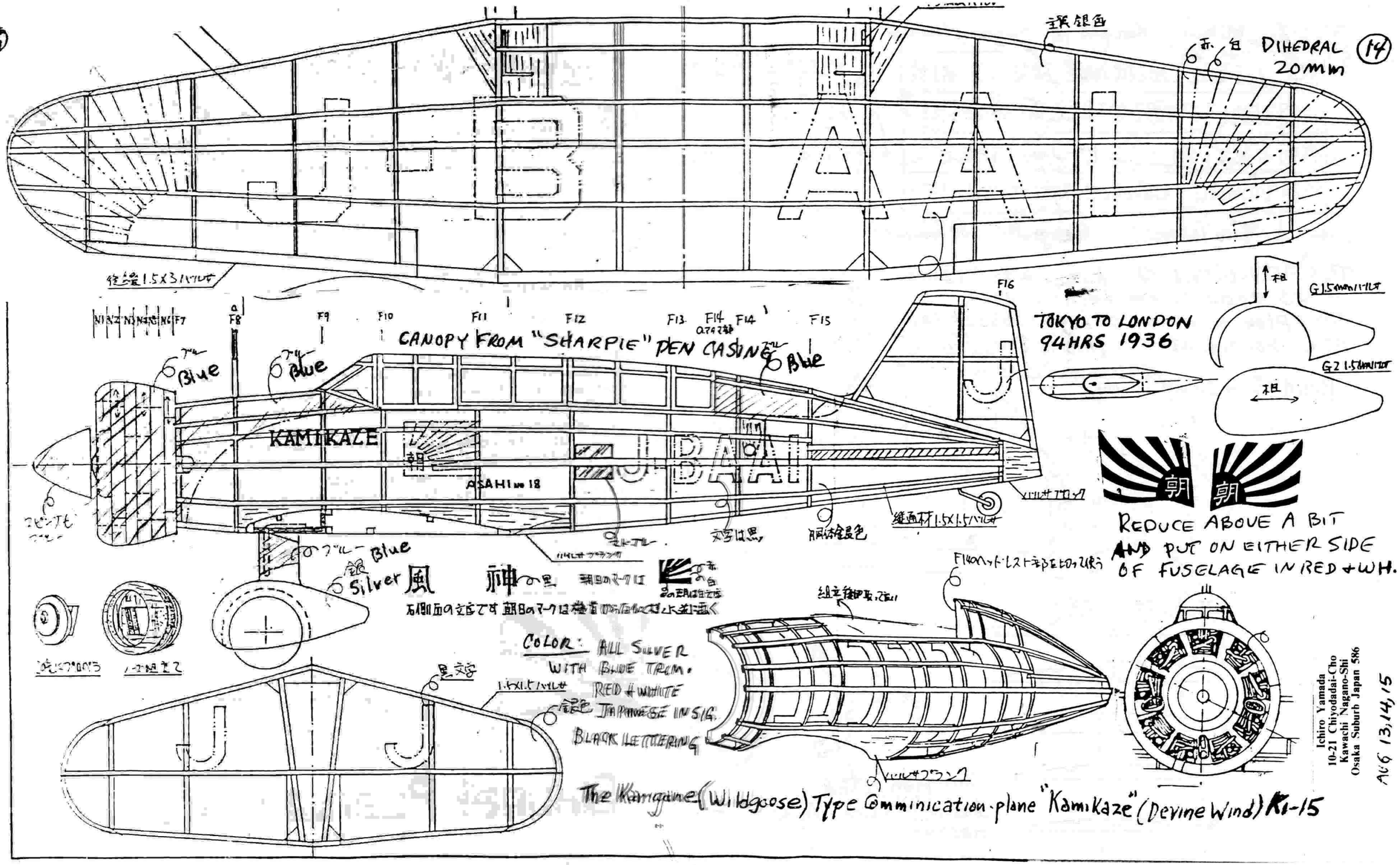
SOLUTION: Keep our rules and add to indoor meets a STEERING MARSHALL. Anytime a steer goes down (Or up,that is), the marshall is called, present and watching. He is knowledgable. All he does is say "Sorry, pal, that's a sneaky steer", and the flight is terminated, or say "You can't steer now,sir, it's not warrented", and the balloon stays down. You can debate whether individual timers should be given this authority too, or maybe outlaw ballooning. Personally I've never ballooned my peanuts or pistachios, but I'm working on some sneaky techniques...Doc.

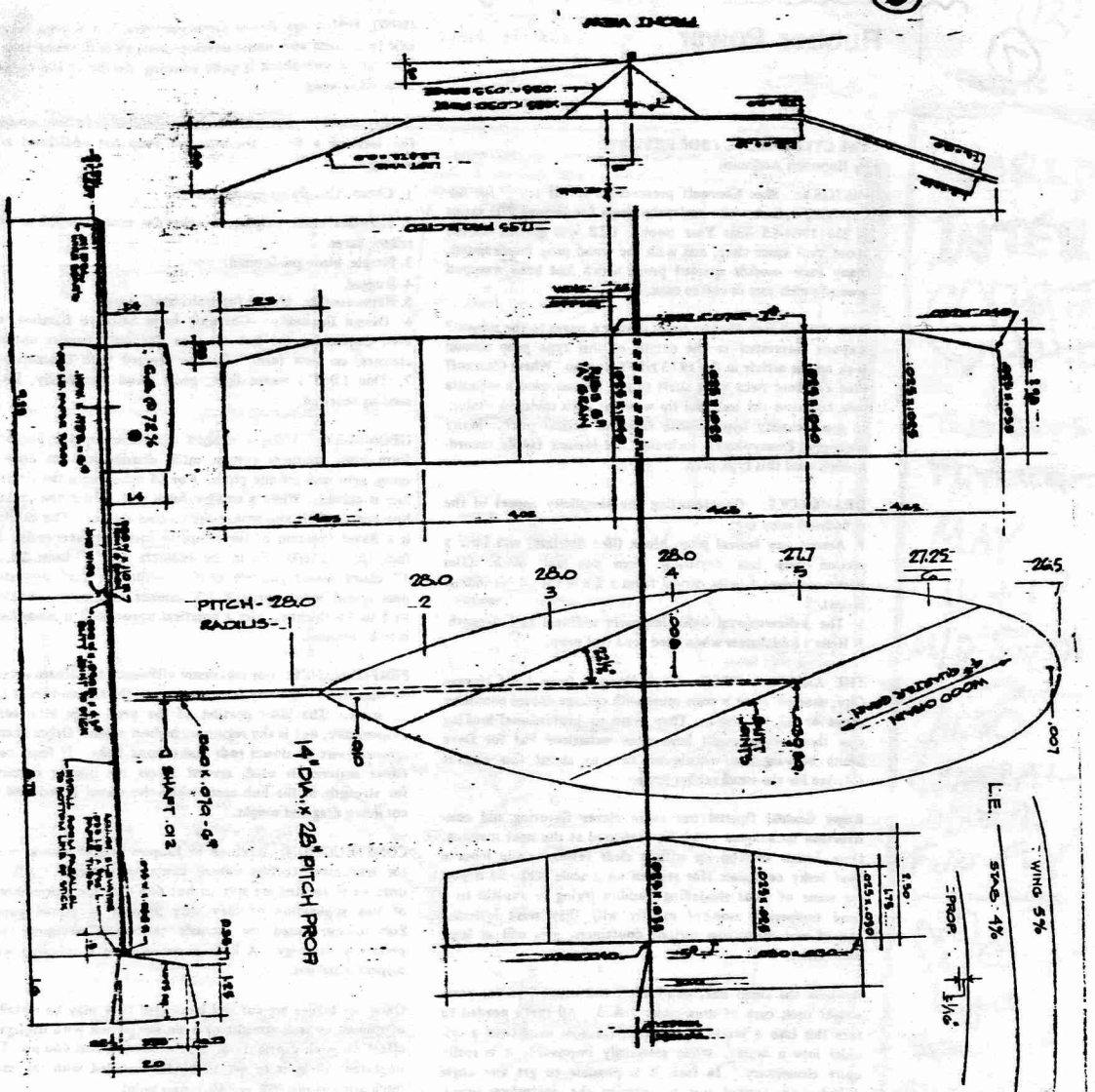


On the next page is a peanut plan for the Mitsubishi "Kamikaze" endurance ship..a beauty. This particular plane has been selected for a "one design" event as a part of the 2nd International Peanut Contest on Aug, 13-15 in Nagoya. Many other classes. Call Doc (305-858-6363) & he'll send you entry form and rules. must be in Japan by July 30. The awards in this meet are truly outstanding...even just to enter!!

Skonai Peanut Powers

NAGOYA JAPAN


DIHEDRAL 20mm
TOKYO TO LONDON 94HRS 1936
CANOPY FROM "SHARPIE" PEN CASING
KAMIKAZE
ASAHI
Blue
Silver
REDUCE ABOVE A BIT AND PUT ON EITHER SIDE OF FUSELAGE IN RED + WH.
COLOR: ALL SILVER WITH BLUE TRIM.
RED & WHITE JAPANESE INSIG.
BLACK LETTERING
The Kamigame (Wildgoose) Type Communication plane "Kamikaze" (Devine Wind) Ki-15
Ichiro Yamada
10-21 Chiyodadai-Cho
Kawachi Nagano-Shi
Osaka Suburb Japan 586
AUG 13,14,15



PAPER STAR EZB by ANDREW TAGLIAFICO

WEIGHTS (CONDENSER PAPER)

WING	.0136
STICK & TAILS	.0168
PROP.	.0085
TOTAL	.0389 oz. = 11 GR.

POWER: PIRELLI (1983) 15" L x .95 GR.
1950 WINDS - 60 = 1890 & LAUNCH

BEST FLIGHTS - CATEGORY II

ALBANY - APR. 24, 1983, 15:21 (MICROLITE COVERED)
ALBANY - JAN. 29, 1984, 15:21 (CONDENSER PAPER)
ALBANY - FEB. 12, 1984, 16:32 (CONDENSER PAPER)

Stolen from NFFS Endorsed by Mullard Wells

(7)

Rubber Power

THE CYLINDRICAL PROP REVISTED
by Hermann Andresen

HISTORY: Max Chernoff presented a set of tables for determining cylinder size and wrap angle for various P/D ratios in the 1964-65 Zaic Year Book. EZB was getting started about that same time, and with the wood prop requirement, many early models sported props which had been wrapped around pickle jars or coffee cans.

Who else but Bob Meuser could devote 6 pages to the subject? Anyone interested in the details of this type prop should look up his article in the 1973 NFFS Sympo. Where Chernoff used constant twist from shaft to tip, Meuser used a separate hub, balanced the hub and tip washout with midspan washin, to more closely approximate constant helical pitch. Many successful Pennyplanes, including the Meuser family record-holders used this type prop.

DRAWBACKS: Counteracting the simplicity aspect of the cylindrical prop are:
1. Almost any helical pitch block (like Starline) will have a section with less deviation from constant pitch. (Jim Richmond uses 1 helix carved from a 2 x 4 for all his indoor props).
2. The 3-dimensional helix improves stiffness and strength.
3. Helix's fold flatter when used for a real prop.

THE ARIZONA PROP: Dick Howard from Lake Havasu City, showed up at a scale meet with cottage cheese container props on all his ships. They were so professional looking that their origin might have gone unnoticed but for Dave Smith blowing the whistle to alert us about this elegant solution for the small rubber prop.

Roger Gudahl figured out some clever fixturing and construction techniques which he presented at the next meeting. Dave Smith showed up with a clear version made from a Beef Jerky container (for realism on a scale Jet). So if you see some of your modelling buddies trying to explain to a food tampering monitor exactly why they were loitering around and measuring various containers, you will at least understand.

Anyhow the small size, non-folder, and usual need for nose-weight took care of drawbacks 2 & 3. All that's needed to turn this into a World Class prop is a way to re-twist a cylinder into a helix. While seemingly impossible it is really quite elementary. In fact, it is possible to get any angle disbribution desired just by curving the centerline appropiately. Many scale props have swept-foreward tips, which have excessive washout using a cylindrical form. The "true pitch" prop however will have scimitar shape which is ancient (WWI), golden age Bonzo Goodyear racer), and even futuristic (prop fans now under development) all at the same time.. The curved sweepback is quite pleasing, similar to the sweptback HLG wing.

DISCUSSION: While the normal cylindrical prop only simplifies locating a form, the Arizona Prop has additional advantages:

1. Cheap. Usually no material cost.
2. Recycles waste, helping to solve the landfill problem and reduce taxes.
3. Simple, blade pre-formed.
4. Rugged.
5. Reproducable. Handy for multi-blade props.
6. Design flexibility. Changing from helix to Larabee, or even de-pitching the hub ala Gee Bee only require outline changes, no new form. Can be tapered with laminations.
7. Thin (.015") means light, good aerod ynamically, little sanding required.

GEOMETRY: Using a straight centerline on a cylindrical form prop produces correct pitch distribution for only 2 cases, zero and infinite pitch. For all other cases the centerline is curved. While a smaller form will reduce the centerline curvature, it also makes the camber deeper. The camber is a direct function of the chord to form diameter ratio. In fact, t/c = .25c/D. So in the example with 4" form dia. a 1" chord would give 6% camber while the 1.3" suggested max chord would provide 8% camber. These in addition to 3 to 5% thickness give a practical upper limit if separation is to be avoided.

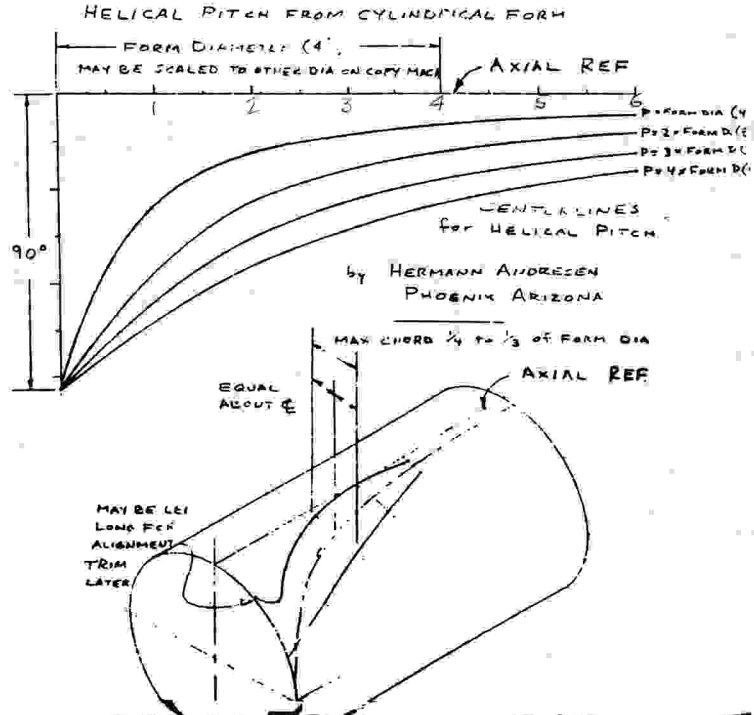
PERFORMANCE: For maximum efficiency the blades should be wide 1/3 of the way from the hub to the tip, narrow at the tip itself. The inner portion of the prop does little aerodynamically, but is the region of highest stress. Other than a spinner, wire or dowel rods make good hubs. If food container material is used, several layers are usually required for strength in the hub area, while the chord is reduced to cut down drag and weight.

CONSTRUCTION: Acetone or lacquer thinner should work for laminating cottage cheese container material. All the ones we've located are styrene but don't let the dairies know of this application or they may convert to waxed paper. Polyethylene, used for lacquer containers obviously will present a challenge. A little experimenting is required with suspect materials.

Once the blades are cut and laminated they may be installed in spinner or hub straight or even sweptback with negligible effect on pitch distribution. Use whatever turns you on. The important thing is to get all blades installed with the same pitch angle at the 70% or 75% radius point.

So now you don't have any excuse for not coming up with a custom prop for your small rubber model!

We Support Women's Surfage.



FROM THE HORSES MOUTH AND OTHER ORIFICES.



CONGRATULATIONS to our Mr.VIO..DAVE LINSTRUM, In the July issue of MODEL BUILDER his new column " THE INSIDERS" will appear, and every month thereafter. Hot dog, a monthly column for F/F indoor in a big circulation mag like MB.

DOC MARTIN has also come in for some national recognition having been named to the National Free Flight Society's Hall of fame for his fine peanut and pistachio promotions. Along with Doc were named WALT MOONEY, VIC CUNNYNGHAM SR.,JAMES PATTERSON,CHARLES WERLE, and DONALD ZIPOY... very distinguished company.

Of the twelve MIAMA who are going to get annual trophies..nine are from central Florida. It doesn't make much sense to have our annual awards dinner in Miami. Maybe we should make the awards on the Sat. night after the first day's flying at the first meet next season tentatively scheduled for MacDill October 24 & 25? A little more planning is needed here. The evening between two contest days is ideal for meetings. Our trophies go to first and second in each class, plus special merit too.

THREE NEW POTENTIAL INDOOR SITES ?? In addition to the forementioned blimp hangar in Kissimmee, we submit that since Florida will have two new Professional basketball teams -in Orlando and Miami- there are also two new big auditoriums under construction. Get busy you promoters!

SCOOPED !!

Things are getting very competative in the newsletter business. Remember when I described Jim Richmond's record flight, and said I was going to ask him to write about it? Well..here I am, SCOOPED by Jorgen Korsgaard !! He must have gotten Jim to do this article reproduced here, which shows all you just why it is a good idea to subscribe to Jorgen's INDOOR NEWS

Ahornweg 5 D 2397
Ellund-Handewitt W. Germany
Cost for 1 year: 60 Dkr.

By Maestro Jim Richmond.

"If it was easy, it would not be fun."
I have often said this in reference to model flying and really believe the elements of difficulty and uncertainty are the factors that produce those eventful exciting flights that keep us attracted to this activity.

Well, the "elements" at the Cardington Indoor World Champs certainly provided plenty of challenge. As Cezar Banks said, "it was cold, windy, rainy, and the weather was bad outside, too."

The cold drizzly weather of England was quite a change from the summer heat of Indiana and I promptly came down with a bad cold and had to take care to keep the nose drips off the planes!! One thing I noticed was that being sick does reduce the pressure of competition.

Hey guys - this was really fun! And it really was. Actually I regard it as being perhaps the best world champs we ever had. This was due to the greatest ever participation (17 countries), the terrific organizing job done by Laurie Barr, and the close proximity of the living quarters, restaurant and flying site which gave ample opportunity to rub elbows with the best indoor fliers in the world.

Laurie Barr picked us up at the airport, gave us a tour of his place of business (he is the only guy I know who makes a good living building scale model planes), bought us lunch, and took us to Cardington along with Larry Calliau and the Romanian team.

My planes arrived undamaged, so there was time to do a little sight-seeing and shopping before getting down to business. This time we flew in the south hangar which was said to be "tighter" than the north one we had used previously, but it had numerous small buildings and pieces of large equipment inside. The roof looked like it had been worked over with a shotgun and I wondered how tight it really was.

We were able to do some flying the day prior to official test day which was fortunate because I had not settled on my flight combination prior to arrival. On test day I flew with half motors and did 19 min. with the V.D. prop and 21½ min. with a flexible 20" standard prop using an 18" motor stick. I was satisfied that I had it, but Popa shook my confidence that evening at dinner when he said he had no faith in the results of half motors tests.

Even so, next day in Round one, the same plane easily cleared 41 min using a full motor. I knew I would need more than this to win, but it was a good first flight. Banks and Randolph were the only other fliers to exceed 40 min this round and it was clearly evident that my own countrymen were going to be my strongest competition.

Bernard Hunt and Dave Pymm of England had similar designs which were the most unusual of any being flown. They had very large stabs, long motor sticks, small 18" props, and long heavy motors into which more than 3000 were wound. The planes were an outgrowth of their EZB development work and performed surprisingly well with both exceeding 41 minutes.

Hunt gave me cause for alarm during the 1st round when he launched one of these heavyweights directly under my descending plane. "Don't worry" he said, "mine is going up and yours is coming down". Sure enough, they did miss, but my heart missed a few beats in the process.

Round 2 was a bummer for the Americans with none of us doing much more than 34 min. My flight drifted to the side and my balloon exploded when it hit a rusty girder. Cezar came to the rescue with another balloon which I used to steer the plane back to center. Another balloon was prepared as the plane dirfback to the side again but the line tangled and the plane went into the side structure at about 35 feet. The rigger came to the rescue driving a lift truck with an elevator platform which enabled me to retrieve the plane undamaged.

Examination revealed that a knot had climbed over the prop hook and was rubbing on the bearing which accounted for the rather early descent. I also corrected a slight bind of the prop shaft in the bearing.

Round 3 had the best air of the competition and produced 9 flights exceeding 40 min. All of the US team's flights were near 40 min, and mine landed at almost 46 min. which was the longest of the day and put me in the lead.

The next day was cold and bleak with hurricane Charlie being predicted for noon arrival. Once again the temperature was about 50°F which is about the same as the Romanian Salt mine and we took plenty of heavy clothing and blankets to the hangar. Once again George Honda persuaded Ohta of the Japanese team to give us a ride to the hangar in the team's black Mercedes, so we arrived in style and had lots of help with our gear.

The Romanian team had a shock when they arrived. They had left their planes out on their stands overnight as is their custom in the salt mines, but now they found them destroyed, perhaps by the pigeons looking for food. Not surprisingly, they were unable to improve upon their first day results.

Cezar was the first American in the air. None of the US team members wanted to fly first since the early air is usually not very good, but Cezar generously volunteered to do so on both days. As it turned out, the early air was very good, especially on the 2nd day and Cezar was only able to improve these two first flights by one second with his 3rd round flight.

Cezar's flight was all-out as is his usual style and it was very eventful. As the plane drifted to the South side at the roof he hit the girder with his balloon causing it to explode and the plane hung and dropped free twice before he could get another balloon on it to steer it free. The rusty girders are plane eaters and fortunate performances such as this were very rare. At this point, Cezar was in first place ahead of me by 26 seconds.
About this time, hurricane Charlie arrived on schedule with lots of wind and rain. All of us Americans had been flying at the West end of the hangar near the big doors which was the place touted by Laurie Barr as being the site of Riekes winning flight in 1962. But now the water was dripping in this area as well as the opposite end and along the sides of the hangar. Only the center area remained relatively dry.

Randolph was next up and his timers recorded 46 min before the prop-stop time reduced it to 43:17. That's a lot of steering made necessary by the deteriating conditions. A great flight. I saw another plane get sucked into the girders on the South side of the building and wondered if I had waited too long to get started. My 4th round flight made a similar pattern and at 17 min it was at the top and heading into the South side at the junction of the eves at about 130 ft. I was trying to get a balloon on it from between the side buildings among debris and spectators and managed to smash a wing.

The drift was getting crazy going first to the North side at low level, then to the South side higher up and more slowly toward the East end.

As I was preparing for my 5th round flight I noticed Ron Higg's plane cruising at about 30 ft. over the officials' table. Half of its film was hanging in shreds due to the water bombardment and yet it continued to fly rather respectably with its remaning film while dragging the water logged shreds areund. Not a very encouraging sight.

THE RECORD FLIGHT 47:44!!

I packed 2370 turns into the motor but let off 80 turns partly in deference to my wife who was urging me to "do a safe 42 minutes".

I launched at the West end of the center section near the officials' table and over the spectators. The plane rode out of the low level turbulence well but rapidly drifted toward the North side and toward the smoke stack of an incinerator. It looked as though it might clear, but Laurie Barr said "its going to be direct hit". Sure enough, the drift carried it into the smoke stack and it caught the right wing and prop at about 30 ft. (This all happened during the ¼ of the first circle). Fortunately, the plane slid off of the smooth tin pipe and it continued on its way.

As the plane gained altitude, the Northerly drift subsided and then it started moving back toward the center. At 7 minutes into the flight the plane was perfectly centered at 80 ft. and I was wondering if it was going to get high enough for it appeared to be fighting a down draft. But then, as it continued its southerly drift, the air seemed to improve and it had climbed to about 130 ft. as it arrived at the south side of the building 17 min. into the flight.

There it was up at the top in accelerating side drift where I had smashed my 4th round flight. I was dancing among the burned mattresses (the hangar was being used for UL type fire tests) between the side buildings, knowing that I had to get the line on it this timo around or it would be too late. I was so keyed up that everything was happening in slow motion and I carefully positioned the balloon for the catch.

(OVER)

Then, above the noise of the hurricane on the tin roof and the people in the hangar, I heard my wife yell from the end of the hangar "higher". It's hard to judge the hight of a balloon when you are standing directly under it, but she could see it very well from her position. Bouncing balloons on these girders had proven to be a dangerous practise and I wanted to stay clear of them but I immediately let out more line and safely caught the plane.

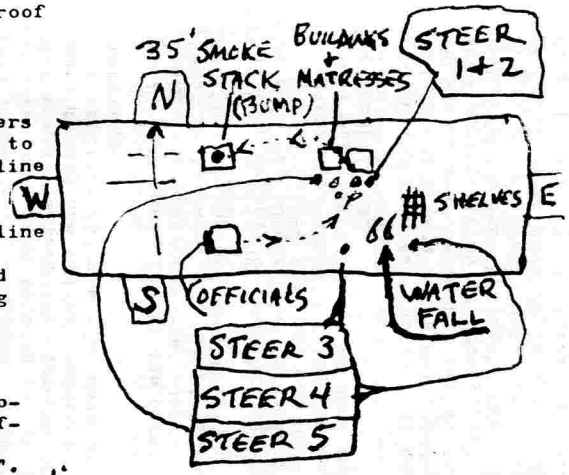
I started to lead the plane out of there when the line slipped off the prop. At least the circle had improved and it was safe to let the model come around for another catch. Steering is not one of my strong points and my yellow line was almost invisible under my yellow balloon, but this time I snagged the prop well and led the plane back out to center.

I appreciated the sound of applause as I let the model fly free of the line. After 10 min. it had drifted to the south side again and I noticed that the altitude was still the same as the last "side trip". The steer back out to center was starting to seem almost routine by now. Another round of applause. The plane had been working its way down stream toward the east end of the building as it progressed, and now the drift was south easterly instead as most south as before. Also, as the plane approached the southeast corner of the center area the southerly drift finally abated and it appeared that the water dripping in this area would not be a problem. Even so, each circle was carefully evaluated relative to the liquid bombardment. Now the plane was drifting back toward center and over some metal shelves in the eastern zone. I climbed the shelves to locate the position of the waterfall I could hear on them and to my horror saw that the plane was flying right through it! Even though I was now at the 40 min. mark and only a minute away from winning, I snagged the prop with the balloon line and got it out of there.

This time when I released the plane it was heading down at a slight angle. The low torque of the nearly expended motor could hardly keep the prop running fast enogh and it kept trying to "tuck under". Good thing the wing wasn't very close to the prop (due to the 18" motor stick). After a few more seconds of this, the normal cruise resumed, but those seconds seemed like minutes. No applause for this steer (ha)

Now the drift was toward the north side and one more steer was required to get back to the clear area. The plane was heaving and wallowing in the ground turbulence before it finally landed with almost all of the turns expended. The timers had over 50 min. on their watches before the prop stop time reduced it to 47:44. Remarkable that the longest 65 cm F1D flight ever made would be accomplished in such unfavorable conditions. Former world champ Bud Romak said "that was the damnest flight I have ever seen, and I have been flying these things for 25 years."

Few other decent flights were made during the last two rounds. Cezar's 3:58 was the longest one made by the US team. I was very glad I didn't have to fly in the last round but I admired those who made the effort. Many had their planes sheltered under umbrellas in an effort to keep the mist off of them and few of the flights lasted more than a few minutes.



"Steering is not one of my strong points" JIM R.

OUR MAN OUTSIDE

Rimert Hangs In!

Terry, after much moaning and groaning about the way things have been, will run the Nats NFFS unofficial events one more time:

Mon, Jul 13, 9-3: Indoor Autogiro, Helicopter, Ornithopter
Tue, Jul 14, afternoon: Embryo, Rubber Biplane, Helicopter, Ornithopter, Autogiro.
Wed, Jul 15, afternoon: Rubber Speed, 7-11 Rubber Dist
Thu, Jul 17: NFFS Nostalgia 1/2-A, Open
Sat, Jul 18: Team Mulfihill

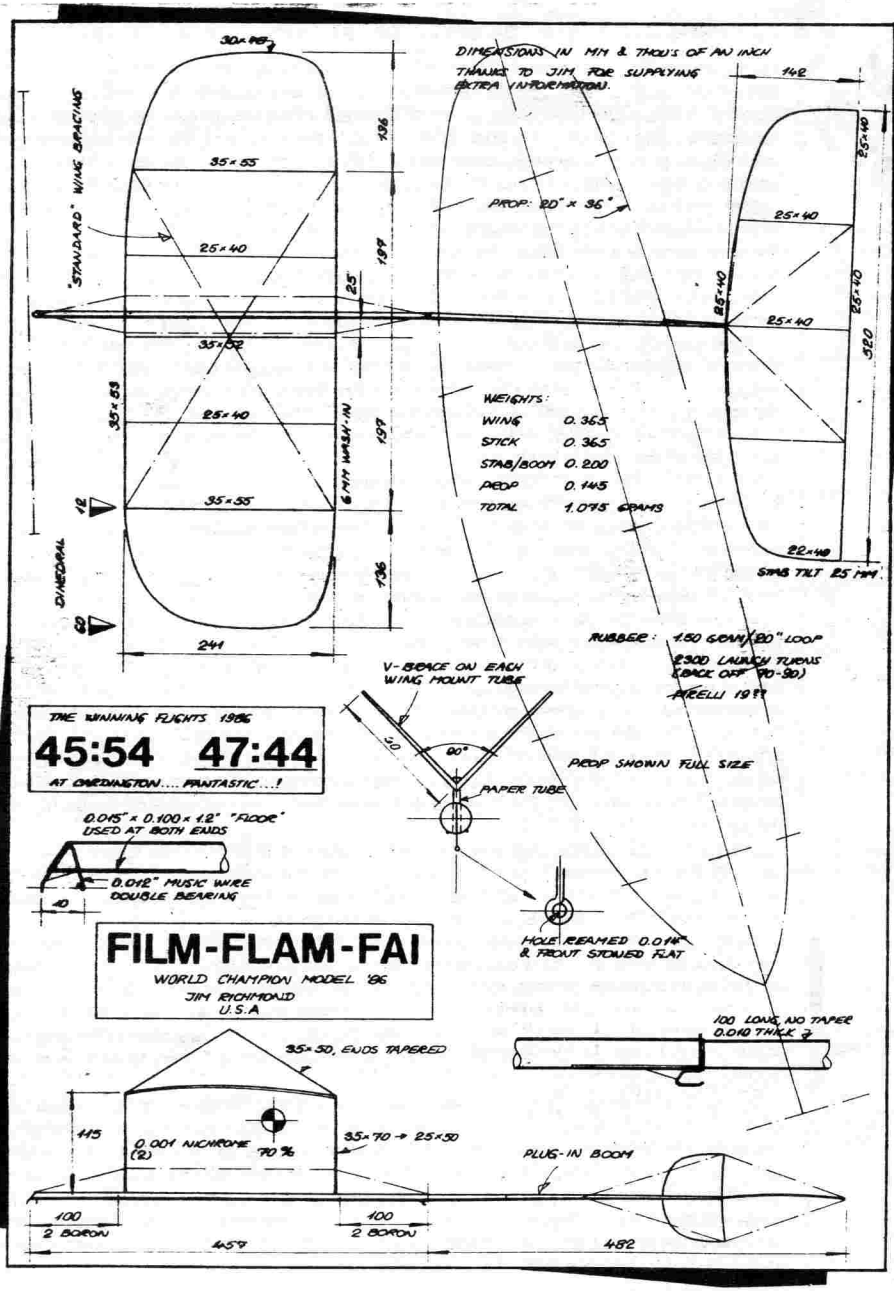
There will also be Bostonian Indoor, Compressed Air, and Oldtimer events.

For rules for the NFFS events, write to Terry;
367 Orange Ave
Baldwin, FL 32234

NFFS

The hangars at Cardington proved once more that they are one of the most outstanding of the world's flying sites. I'm looking forward to the next time they will challenge us to make the longest flight of all.

SUPPORT INDOOR:



THE WINNING FLIGHTS 1986

45:54 47:44

AT CARDINGTON.... FANTASTIC...!

FILM-FLAM-FAI

WORLD CHAMPION MODEL '86

JIM RICHMOND

U.S.A

WORLD INTER-CUTS

TWO DAYS FLYING - MAY 16 + 17 M/D SOUTH

ALSO GENERAL INDOOR FUN FLY

We hope some of the flyers from MID FLORIDA WILL MAKE THE TRIP TO MIAMI

Submitted by Butch Hadland who sez: Lympne Proxy Trials 1st Sept 1987. Peanut + Pistachio Only. More later

(13)

The importance of photos or ↑

MODELLING WORLD WAR I TYPES

Let's consider first the general character of World War I machines, and the ways in which their special character is most directly demonstrated; then let's consider the Scout and its special aspects. A World War I aeroplane seems to depend for its characteristic appearance on certain relationships: the relation of the open-front cowling to the wheel size, the angle and lengths of the landing-gear legs, the way the fuselage seems to lift under the nose or depress on the cowling, the relation of the top wing and its centre-section struts to the front of the fuselage, the shape of the rudder, the tread of the wheels. These relationships include angles, lengths, distances, diameters Most scout plane wheels, for instance, were approximately the same diameter as the open-front of the cowl, perhaps a little bigger; the aeroplane stands high in front; there is usually considerable stagger. Wing and tail surface edges are very thin (the Scout uses 3/8 inch steel tubing for the trailing edge, and 1/2 inch for the leading edge), and struts are relatively thin. These are the elements that a cartoonist would stress, in order to make his drawing a typical World War I machine.

When you consider a specific (maybe your favourite!) aeroplane, you find that its special character resides not only in these, but in other cherished details as well. It is not a gross exaggeration to say that most commercially available three-view drawings are seriously lacking in the specific proportions and relationships that make a model (or a full scale reproduction!) seem 'right'. Magazines are full of photographs of beautifully built and finely detailed models which are to some degree distorted in basic shape.

For instance, the Bristol Scout. Immediately apparent is the backswept landing-gear: the rear strut (made of ash) takes the whole landing shock; the front strut (made of spruce and attached at the top to the fuselage with an aluminium fishplate) takes little if any stress. The wheels are large (21 inches) and relatively close together; one of the first modifications made to the prototype was to spread the wheels apart – in the original the legs were nearly parallel when seen from in front. The top longeron of the fuselage is straight, and makes building the fuselage very easy (upside down). Any sag at either end gives the machine a broken-back appearance which is uncharacteristic. The fuselage is narrow, with a wide-diameter cowl, faired in rapidly on either side; the aluminium fairing (with all its boot-hooks for fabric lacing, flanged edges, rolled edges, and complex inspection doors) ends at the first diagonal fuselage upright. The rudder (Stan Brennan's fine drawing shows the four variant shapes) has some invariant characteristics: the vertical edges are parallel and vertical, and the horizontal edges are parallel and horizontal; the curves at the top and bottom of the leading edge are the same, and different from the curves at the top and bottom of the trailing edge, which are also the same. The curves at the leading and trailing edges of the wings and the stabilizer and elevators are relatively tight. The fuselage is relatively thick at the rear where it curves together at the tail post.

Other World War I aeroplanes have their own peculiarities: Bristol Fighters must manage the flat curve to the rear fuselage correctly; Fokker D.VIIs must manage the proper proportion to their boxlike front end; Pfalz D.IIIs must have the thickest part of their graceful shark-like fuselages far enough to the rear – they are not bullet-shaped; and so on.

Remember: World War I aeroplanes were built, not from three-views the way models are, but from detail drawings of fittings and separate pieces, with only the larger dimensions on what was essentially an assembly drawing, for guidance. Factory three-views of World War I aircraft were not accurate; I have several of the Bristol Fighter, from Bristols, and they are all very different! The best way to ensure that your model (or your reproduction) has the characteristics of the original is to immerse yourself in photographs to get the feel of the design, and then to work from factory drawings or whatever is next best.

Our job as publishers of technical material on these aircraft is to continually encourage builders to go for the best, to arrive at that marvellous sense of fragility combined with strength, of a structure held together only with members in tension opposed to members in compression, of lightness and power, which characterizes the early aeroplane designs. Models and full scale reproductions which seem clearly to be built from slabs of wood or plastic held together with glue or bolts, and which do not do justice to the marvellous grace and balance of the original designs, do not encourage the further research and model-building and reproduction-building which will allow us the pleasure of seeing these machines living again.

Leo Opdycke

THIS IS JUST A FEW OF THE MANY (AND MUCH LIGHTER THAN THESE SVIEWS)

(15) Kami Kaze Mitsubishi Karigane type Long range Recorder

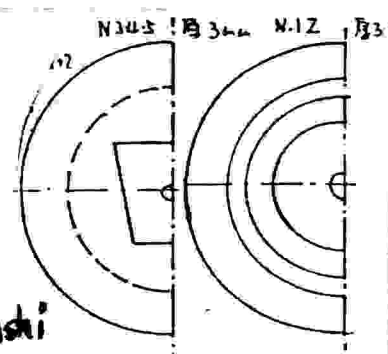
神風 三菱雁型遠距離飛行記録機

1983年5月頃庄内公園で初お目見え 故小林氏原設計

作図考証 竹内史郎 ピーナッツスケールモデル

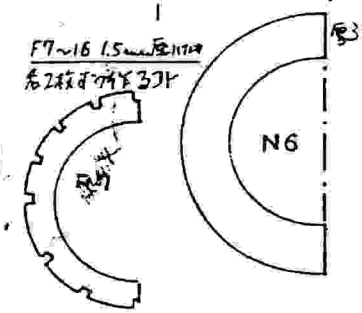
1984年10月19日 九割同なのスペックの応募作製作方に上記3

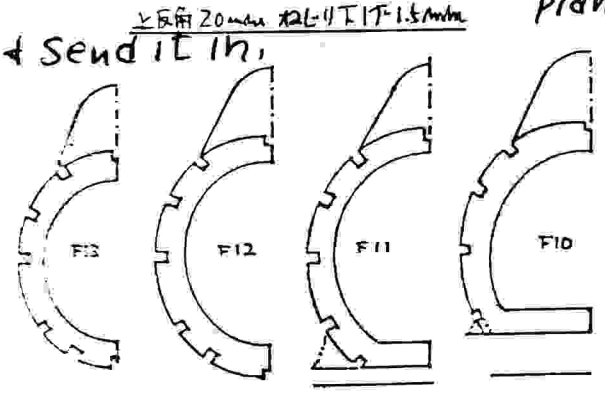
Drawn by Shiro Takeuchi Designed by the late Kobayashi

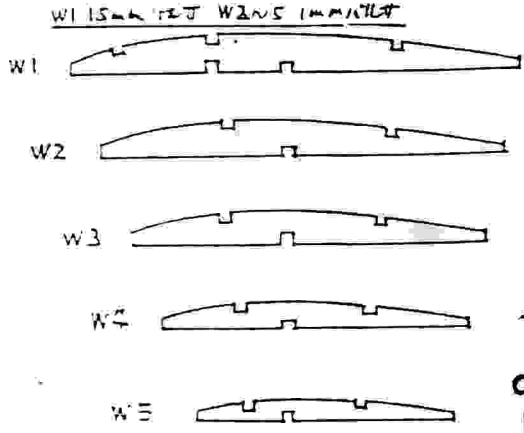


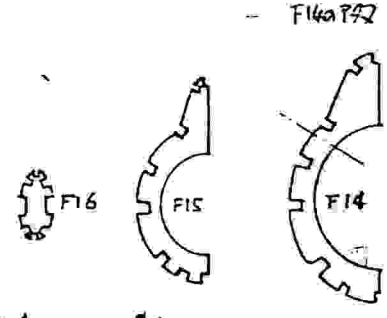
This Mitsubishi "Kamikaze" was a famed 1930's endurance record flyer. This plan is a "One Design" model for the Shonai Contest. This is the official plan.

Build it & send it in.



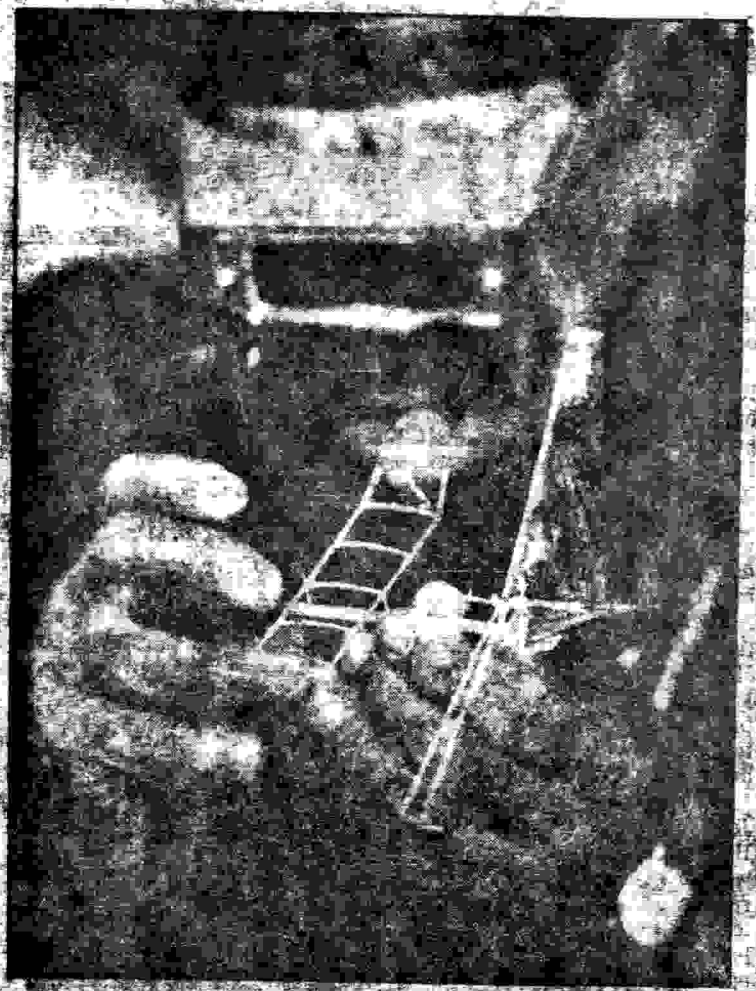






This plan is the documentation - None other needed.

16



Tribune photograph by MARK CUSS

Close inspection

Frank Kieser of Jacksonville Beach works on his ornithopter Saturday at a contest for indoor model aircraft at MacDill Air Force Base. The event was sponsored by the Miami Indoor Aircraft Model Association.

FRANK'S PISTACHIO ORNITHOPTER



NEAT WINDOWS

Covering windows is always a pain. Uncle Carl Fries, writing in the *National Free Flight Society Digest*, uses *Glad* sandwich bags and RC-56 cement (dries clear), applied five minutes before the polyethylene. Holding a heat gun several inches away will take out the wrinkles. Works well for double-contoured windshields.

(7)

FROM ED WHITTEN - NEW YORK (INDOOR) TIMES

AN OPEN LETTER TO AMA OFFICIALS

Enclosed is a copy of the editorial in issue No. 41 of THE NEW YORK INDOOR TIMES dated 2/28/87. Also enclosed is a copy of the complete issue for your files.

I would appreciate your reading the editorial, which concerns the costs of the 1986 AMA Nationals. You will note a specific request (on Page 2) to AMA for an accounting of the costs of the contest in order to make an accurate assessment of the situation. I need the costs of the 50th Anniversary Celebration, the individual costs of the R/c, C/L. Outdoor FF, and Indoor FF events. I also need the costs of all those individuals you brought to St. Charles for one reason or another, as well as all other pertinent costs.

The purpose of this is obvious. The AMA membership does not know the facts because the AMA does not publish the facts. To be accurate in our opinions and editorials we must know what we are talking about. If AMA says soemthing is too expensive,, then AMA should tell us what the costs are.

Frankly, the membership should also see a financial statement published annually in MODEL AVIATION. Such information has NOT been published for years. Sure, I know many AMA members will not take the time to study it and some may not even know how to read it. But such information is more valuable than the Vice Presidents' monthly reports, and a lot of us DO understand such matters and we are ENTITLED to see such financial details. Unfortunately, to NOT publish financial data emits a very suspicious aura.

Those of us who are concerned guide others who will not learn for themselves. We need to know the facts. With the facts we can be of proper service to AMA rather than appear to be mere detractors.

You know that I support the Academy and devote considerable space to AMA affairs in each issue of THE NEW YORK INDOOR TIMES. I can do a lot better job of boosting AMA if AMA Headquarters and officers work more openly with me. And it will not just be for Ed Whitten that you publish the facts; there is a very sizeable number of AMA members that pays its dues for more than just the insurance policy.

Pilots, our opinion is solicited by AMA as to what AMA is or is not. Help AMA to be more responsive to it's members. Perhaps Ed Whitten's letter on the opposite page will start you thinking. Go for it.

(18)

1987 AMA MEMBERSHIP SURVEY

AMA is very concerned about its image in the eyes of the membership. We would like you to tell us a thing or two about ourselves. Please feel in ALL the blanks and return the survey to Headquarters. If you don't know a correct answer, WE WANT YOU TO **GUESS**! That, really is the whole idea. Average response, along with a few comments, will be published in a later issue of MODEL AVIATION.

Have you ever needed AMA assistance with your flying field? _____ With an insurance problem? _____

Other? _____ Did you GET what you needed? _____ Quickly? _____

Should AMA be more involved with youth education programs? _____ What if it meant higher dues to finance these programs? _____ Since NONE of us want higher dues, what's YOUR solution? _____

_____

_____

What do you think is the annual salary of the AMA President? _____ A District Vice President? _____

Associate Vice President? _____ How many persons do you think are employed by AMA HQ in Reston, Virginia? _____ How many persons do you think AMA employs in other locations? _____

What is your guess as to the fee paid to an AMA Contest Director for running a NATS event? _____

Underline the titles of the AMA Executive who you think drive AMA company cars: Executive Director Director of Hobby Industry Manufacturers Technical Director Director of FCC Frequency Requisitions Competition Services Director Chairman of the Board of Directors

How much is an AMA Life Membership? _____

Tell us in YOUR OWN WORDS, what is your opinion of AMA and what it does, or doesn't do, for you

_____

_____

_____

_____

_____

_____

_____

By hearing YOUR voice, we will be better able to make this organization serve the needs of its membership. THANK YOU for taking the time to help! Please send this form to:

Jeff Troy
AMA Public Relations Department
1810 Samuel Morse Drive
Reston, VA 22090

WHAT'S GOING ON?

MAY 16-17 WORLD INTER-GNATS PISTACHIO MEET.
MIAMI/DADE SOUTH COLLEGE 9-5 + GENERAL INDOOR FLYING

JUNE 5,6,7 →

JULY 12,13 - INDOOR PART OF AMA NATS
LINCOLN, NEB. MON. IS NFFS UNOFFICIAL EVENTS.
A GOOD SIZE, FOR A CHANGE, BUT EXPENSIVE

NATIONAL FREE FLIGHT SOCIETY

UNITED STATES INDOOR CHAMPIONSHIPS

EAST TENNESSEE STATE UNIVERSITY MINI-DOME
JOHNSON CITY, TENNESSEE

JUNE 5, 6, 7, 1987 (FRI/ SAT/ SUN)

LARGEST NUMBER OF EVENTS OF ANY INDOOR CONTEST IN THE UNITED STATES!
CEILING HEIGHT- AN IMPRESSIVE 122 FEET!
FOOTBALL FIELD SIZE ARENA FLOOR AREA!
AIR CONDITIONED DORMITORY ROOMS!

ALSO, MIAMA PEANUT GRAND PRIX (INCLUDING PISTACCHIO)!

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Include large, self addressed stamped envelope

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(414) 782-6256

MIAMI, FL
PM
5 MAY
1987

NATIONAL ASTHMA WEEK
MAY 1—7

USA 22

THE HANGAR PILOT

EDITOR: DR JOHN MARTIN, JR
2180 TIGERTAIL AVE MIAMI FLA.
33133