ISSUE 176

THE HANGAR PILOT

AN YEAR of PUBLICATION ISN'T FOR EVERYONE

- RESULTS - MEET 2
- HEDLEY'S EMBRYO
- BOLLINGER'S LEGAL EAGLE
- VAN GORDER'S EZ-B
- STEVE WITTMAN'S HARDLY ABLESON



SCHWEIZER T-63 - WARD'S PF TOW PLANE

TO THE WORLD'S STICK + TISSUE MODELERS:

MERRY CHRISTMAS + HAPPY NEW YEAR FROM MIAMA



"LIKE A LETTER FROM HOME" Whelan

THE HANGER PILOT

The Hanger Pilot, edited by John Martin Jr., who is solely responsible for its content, is published 8 or 9 times a season for bunch of middle aged guys who refuse to grow up. MIAMA (Miami Indoor Aircraft Model Association) - AMA club 986. One of two active all indoor free flight clubs in AMA. For a mere $12.50 you will receive all of the published issues that year. We encourage reader contributions because, frankly, we need the material. Letters, plans, J-views, complaints, gripes and compliments to: Dr.John Martin Jr., President / Editor, 2180 Tigertail Ave., Miami, FL 33133 USA. phone: 305-858-6361.

CONTEST REPORT MEET 2 NOV 11,12 1995

We finally got some cool fall weather. Meet 1 was very hot, but after meet 2 it was 40° Mon. night in Tampa. State Champ Wayne Trivin was back in action and picked up a ton of points while winning Peanut, FAC scale, and NO-CAL. Those serious about challenging him better get in these "big point" events. Remember, we total your best 5 meets for annual points. Young Johnathan (J.J.) Nunez flew in his very first meet and did well in Legal Eagle and FAC scale. J.J. is 4 years old and has been flying for two years. Doc "Glad to be alive" Martin enjoyed meet 2 and the awards banquet at the Colombia. The service was lax, but the food and the company was fine. This year's awards were well received, and hard earned.

After 2 meets this season there is a real battle going on for annual and class points. We'll see you at MIAMA meet #3 at the Delta Hangar.

Editorial comment: While it is true that most rubber improved with age, this is not always true. These comments apply only to Pirelli and the earlier batches of Tan. I have insufficient experience with Tan II to comment, but the same concepts should still apply:

1) If rubber is over-vulcanized during manufacture, aging can only make it worse. Even if it doesn't break from stress, such rubber normally won't accept as many turns as properly cured rubber.

2) A measure of rubber hardness is the rate of recovery from stress. This is quite apparent with Tan; acceptable Tan returns to break-in length in half an hour. If recovery takes more than an hour, save the motor for the next day.

I firmly believe that keeping good records of recovery time for rubber is a key concept in judging rubber vulcanization. Note that I doubt there is a close correlation between absolute quality (energy storage capability) and the level of vulcanization.

It does seem likely that under-vulcanized rubber can't return as much total energy as properly cured rubber, but this also is only supposition. Similarly, the very hard rubber may return a high level of energy, but in a form not likely to be useful.

KERMIT WEEKS' AIR MUSEUM "FANTASY OF FLIGHT" (NEAR ORLANDO) IS NOW OPEN. Call 941-984-3500

MIAMA MEET 2 NOV. 11,12 CD DICK OBARSKI (2)

AMA PEANUT SCALE

	Scale Score	Two Best flights		
1.Wayne Trivin 14 Bis	105	1:36	1:46	203.5
2.Geo. Nunez Zippy Sport	97,2	1:20	1:24	179.5
3.Sid Gilbert Lacey	86.4	2:22	2:22	172.8
4.Newt Bollinger Cougar	84	1:10	1:22	160
5.Don Brimmer MO-1 Float	92	:56	:57	148.5
6.Walt Schlesinger Fike	84	::41	:44	126.5
7.Ric Choate Pottier	90	:51		115.5
8. Charles Nelson Pietenpol	67.2	::20	:21	88.3

AMA EASY B

L.Dick Obarski	12:02
2,John Barker	6:27

MINI-STICK

1. John Barker	7:14
2.Dick Obarski	6:40
3.Charlie Johnson	5:53

FLYING ACES SCALE

1.Wayne Trivim 14 Bis	80	1:55(79.5)	159.5
2.Geo, Nunez Fairchild 24	60	1:37(77)	137
3.Doc Martin Dornier	59	1:17 (68.5)	127.5
4.J, J, Nunez Daphne	52	1:30 (75)	127
5. Sidney Gilbert Comper	52.5	1:24 (72)	124.5
6.Don Brimmer Ford AT	56	1:10 (65)	121
7.Walt Schlesinger Porter	56	:41	97
X. " " " Ike	58	:18	74

AMA PENNY PLANE

1. Tie D. Obarski	9:52
1. Tie J. Barker	9:52
3. Ward Riffe	7:55

MIAMA PISTACHIO SCALE

RETIRED AFTER 2 WINS

	Static	Best			
1.Ric Choate Citabria	1	1:04	1:01	2	3
2.Doc Martin Goldwing	3	1:10	1:02	1	4
3.Don Brimmer Citabria	1	:58	:59	4	5
4.Sidney Gilbert Fike	3	1:00	1:01	3	6
5.Dave Linstrum Komet	2	:53	:59	5	7
6. W. Schlesinger Cougar	3	:22	:34	6	9

MIAMA PISTACHIO MODEL OF A MODEL

1.Don Brimmer Pussy Cat	2:07	2:03
2.Charlie Johnson Pussy Cat	1:19	1:20
3.Sidney Gilbert Pussy Cat	1:00	1:04
4. W.Schlesinger Pussy Cat	:34	:29

MIAMA COCONUT SCALE

1.Ric Choate Guardian	1:33
2. Dave Linstrum Zippy	1:24
X. " " " Pilatus	:58
3.Doc Martin Beardmore	::55
4.W. Schlesinger Hi-Max	:36

AMA CATAPULT GLIDER

1.Charles Nelson
2.Don Brimmer
3.W. Schlesinger

MIAMA LEGAL EAGLE

1Newt Bollinger White Bronco	9:55
2. John Barker Cimitar L.E.	9:05
3.Rich MacEntee	8:40
4.Dave Linstrum Mistrial	8:37
5.Wayne Trivin Barely Legal	7:24
6. Don Brimmer Mod Paperchase	4:53
7.J. J. Nunez Yellow Bird	3:54
8.Dick Obarski Facetmobile	2:55
9.W. Schlesinger Retlaw	1:42

AMA BOSTONIAN

1. John Barker Romulus	1.12	462
2.Wayne Trivin Flying Colors	1.1	415
3.Dick Obarski GenDi 50	1.1	414
4.Sidney Gilbert 7 Square	1.1	303
5.Newt Bollinger Orange Crate	1.1	283
6.Don Brimmer Ugly Too .	1.0	214
7.Walt Sshlesinger Bost.Bean	1.10	95

MASS LAUNCH EVENTS

PEANUT MASS LAUNCH

1. Newt Bollinger
2.Ric Choate
3.Bill Criss
4.Dave Linstrum
5.Walt Schlesinger
6.Sidney Gilbert
7.Charlie Nelson

COCONUT MASS LAUNCH

1.Ric Choate
2.Dave Linstrum
3.Doc Martin
4.Walt Schlesinger

FLYING ACES RACE PLANES

1.Sidney Gilbert
2.Doc Martin
3.Wayne Trivin
4.Walt Schlesinger
5.Dave Linstrum

FLYING ACES NO-CAL SCALE

1.Wayne Trivin Farman Postale	3:41
2.Dick Obarski Lacey	3:35
3.Newt BollingerLacey	3:01
4.Sid Gilbert Finnair	2:50
5.Don Brimmer Martin MO-1	:58
6.Dave Linstrum Dayton	:42
7. Chas. Johnson Avi 305	:21
8.Walt Schlesinger Avia	::11

MIAMA DIME SCALE

RETIRED AFTER 2 WINS

1.John Barker Comet Curtiss Robin	6:31
2.Ric Choate " " "	5:10
3.Sidney Gilbert " " "	4:15
4.Charlie Johnson " " "	3:52
5.Dick Obarski " " "	3:13
6.Wayne Trivin " " "	2:58
7.Don Brimmer Stinson 105	2:53
8.Dave Linstrum Megow Puss Moth	2:44
9.W. Schlesinger Megow Nieuport	1:34

FLYING ACES EMBRYO ENDURANCE

1.John Barker Swordfish 2	501
2.Sidney Gilbert Hornet	317
3.Don Brimmer Hornet	297
4.W. Schlesinger Hornet	123

(3) A FIELD GUIDE TO FLYING THE MIAMA MEETS

Sometimes, amidst all the churning of a meet we really forget what we are doing. It is really dumb to post only one flight in peanut when the flight score is the average of your TWO best flights. So here is a brief reminder to help you plan your contest efficiently:

MINI-STICK, EASY-B, PENNY PLANES, NO-CAL,COCONUT (ROG), all best flight of 5 flights.
LEGAL EAGLE, EMBRYO ENDURANCE: Total of ONLY 3 flights,ROG. Less than 20 sec. is an Attempt. Re-enter for $1.00 if you can do better.
DIME SCALE:H.L. total of 3 best of unlimited flights plus bonus points for type of plane.
PISTACHIO,GLIDER: Best 2 of 9 flights. PEANUT: Same but 10 sec bonus ROG.
BOSTONIAN: Best 2 of 5 flights ROG times charisma factor.

MASS LAUNCH:COCONUT MASS LAUNCH IS A ONE TIME DEAL ROG and last man down wins Proxy flying is allowed. Flown Sunday at 2:00
FLYING ACES SCALE M.L.:Flown to FAC rules. Flown Sat. at 5 Broken motor- you're out. Repairs- none allowed. No holding up launch time. Ideally flown in 4 rounds depending on number of contestants. Must have 50 FAC scale points Landing gear may be in up position. No foam flying surfaces. All sizes OK.
AMA Peanut- H.L.: Flown in rounds, must have L.G. Flown Sat. at 2:00

NEW MIAMA JUDGING CRITERIA

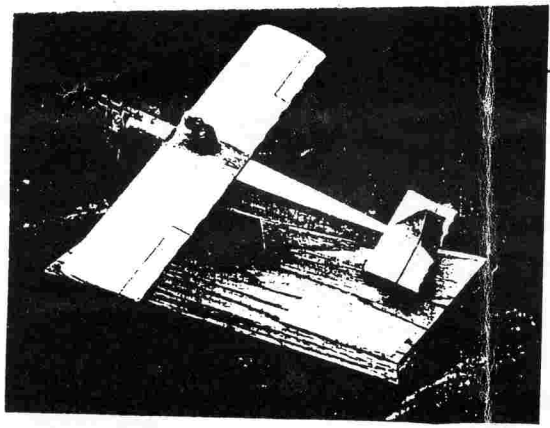
Too often attempts to "equalize", and "encourage innovation" fail to work. For example the CHARISMA factor in Bostonian has never helped biplanes or realistic types. In determining winners you can throw out the multiplyer and just use flight time without changing the results. The nine points for details on Embryo never changed the results either,and the bonus seconds in Dime Scale never made a Fokker Tripe competitive with a Curtiss Robin. So far only the FAC scale points have succeeded in making a Caproni Triplane competative with a Robin.

Therefore here is the new bonus schedule for MIAMA Dime Scale: For LOW WING, SHOULDER, and PARASOL...all plus 20 seconds per flight BIPLANE...plus 30 seconds. FLOATPLANE,TRIPLANE...plus 40 sec. The above is based on the added weight and drag of different types. Now maybe we'll see some Aeronca seaplanes and Fleet Biplanes.

10% SCALE

BOSTONIAN NOTICE: . When I CD a meet in the future there is a MAX CHARISMA I'm applying to Bostonians. As you know you can get up to 20% added to your flight time according to CHARISMA. I don't find high wing monoplanes charismatic,particularly the flying flounder type that dominates all competition,hence,from me,the MAX CHARISMA will be: High wing mono; 5%, High wing mono with fuselage on it's side 3%, Recognizable simulation of an actual aircraft 12%, Biplane 15%, Triplane or any complex airframe 20%. I doubt this will encourage innovation but it's a try on my part.

SUBMITTED BY FRED KAMLOSY (4)



Steve Wittman's

FIRST AIRPLANE

by Patrick H. Packard and H.G. Frautschy
Drawing and model by Patrick H. Packard

Additional biographical information from "Steve Wittman - One of the World's Greatest Race Pilots" by Aaron L.King, Jr.

In 1923 and 1924, as Sylvester "Steve" Wittman was preparing to graduate high school, his dream of becoming an aeronautical engineer was still a part of him, but with no financial resources available for the Byron, WI native to attend college, he had to rely on his own study habits and the practical knowledge he'd gained to be able to make a career in the new industry of aviation.

A little background history will give the reader a clearer understanding of his aeronautical beginnings. As a youngster, Steve's father, Martin, was the station agent for the Soo Line railroad in the little Wisconsin town of Byron, 7 miles south of Fond du Lac. The family lived in the depot's living quarters, located on the second floor. His mother, Mary Ann was also adept at handling the railroads affairs at the station, including being a skilled telegrapher.

The family managed to get by fine for a number of years until tragedy struck. Little Steve was only eight years old when his father passed away at the age of 56. Fortupately, because her coworkers at the station vouched for her abilities, Mrs. Wittman was retained by the Soo Line as the station agent after her husband's death. Still, times were hard, and Steve recalled spending a good part of his youth working to earn additional money to help support the family, which also included his older brothers, Martin A., Hubert, Raymond, and his older sister, Marie. As a young adult, Martin A. fell ill with a disease that slowly calcified his back. He became a bedridden invalid, and required constant care. With his mother working for the railroad, Steve had to help care for his older brother. He found he had little time for school, and as a consequence, he didn't finish high school until he was 20 years old.

After graduating from Fond du Lac high school in 1924, he and his buddy Perry Anderson bought a Standard J-1. He had been riding a motorcycle for a couple of years with no problems associated with exceptionally poor sight in his right eye, the result of a viral illness Steve suffered at the age of 5. He and Perry learned to fly the biplane, and immediately put it to work by selling advertising on its fuselage sides. They barnstormed all over Wisconsin, selling rides and putting on flying exhibitions to help foot the bills. "Witt," as he was often known to his friends, also ran a fledgling fixed base operation at the Fond du Lac airport, then located on the east end of the town, directly on the south end of Lake Winnebago.

But all of this took place after an earlier aeronautical project, for Steve Wittman's first airplane was one he built himself! Before he graduated high school, "Witt" had been involved in the construction of an airplane, the first of his own design. As he finished high school, he was also hard at work designing and building his first homebuilt airplane. Since motorcycle riding was accomplished with no problem, why not realize a long held dream of learning to fly?

In a series of interviews with Pat Packard that took place from 1991 until 1994, Steve related the details of the airplane's construction. It was to be a monoplane of what we now consider conventional layout, with squared off tail and wing surfaces. Power was a Harley-Davidson 61 cubic inch V-twin motorcycle engine of 12-14 hp at 1200 rpm, complete with an added gear reduction mounted between the two cylinders to drive the propeller. The powerplant would give the airplane its name - it was dubbed the "Hardly Ableson," a play on words by Steve that pointed out the Harley's less than adequate power level, given the task Steve was asking it to perform. It's probably a safe bet that Steve didn't actually give it this name until after he had tried flying the airplane.

The actual layout of the wing structure does have a bit of mystery attached to it, and with Steve's passing we may never know. Fortunately, during the past winter Steve told Pat that he was pretty sure the spars for his first airplane still existed in the hangar loft of his Wisconsin home. After Steve's death, as preparations were made to move artifacts from his hangar, Pat and members of the EAA Foundation's collections staff, Ron Twellman and Sean Butler, found a pair of spars that were identical in shape and layout and appeared to be old enough to be the spars for the Hardly Ableson. Close examination showed that spars were not consistent with Steve's description of the spars for his first homebuilt - they were strongly tapered, and the mounting was with straps over the center section, instead of the bolts through the spar as Steve had described them.

Since Steve had described the use of the RAF 6 airfoil, and he made no mention of a tapered wing in either chord or thickness, it leads to the belief that the spars found are not those of the Hardly Ableson. They do appear to be old

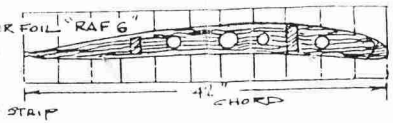
OLD FUNKY PLANES WORTH MODELING

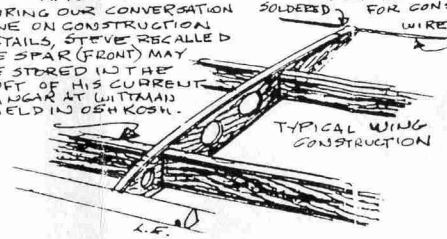
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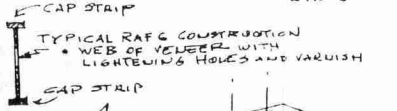
* APRIL 1994

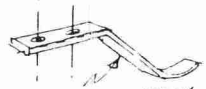
DURING OUR CONVERSATION DONE ON CONSTRUCTION DETAILS, STEVE RECALLED THE SPAR (FRONT) MAY BE STORED IN THE LOFT OF HIS CURRENT HANGAR AT WITTMAN FIELD IN OSH KOSH.

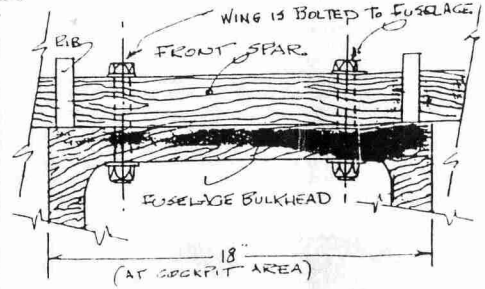
STEVE USED A POPULAR AIR FOIL "RAF 6" SHAPE OF THE 1920-1930 ERA. IT WAS MODIFIED BY STEVE FOR CONSTRUCTION

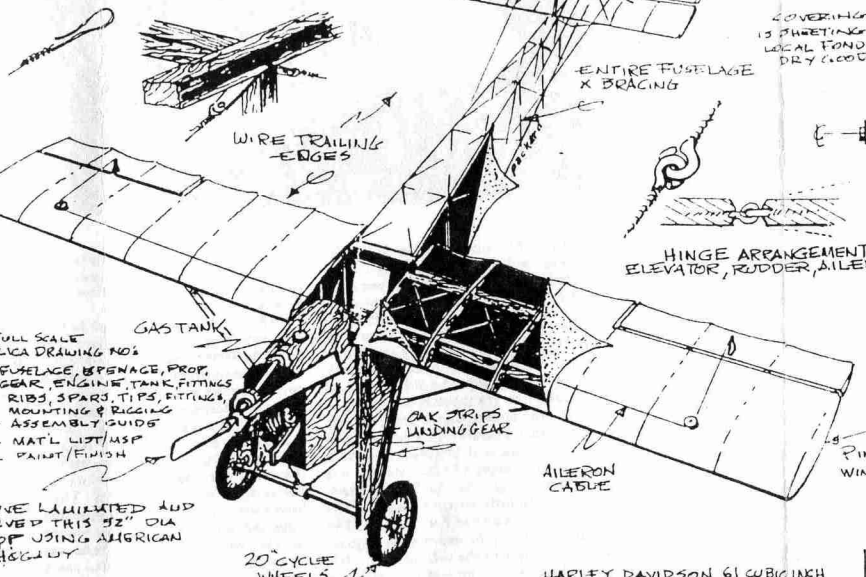




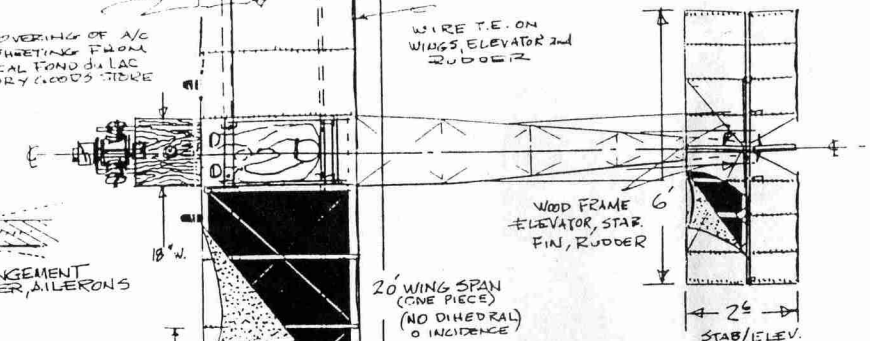








COVERING OF A/C IS SHEETING FROM LOCAL FOND du LAC DRY GOODS STORE



FULL SCALE REPLICA DRAWING NO's

001 - FUSELAGE, EMPENAGE, PROP, GEAR, ENGINE, TANK, FITTINGS
002 - RIBS, SPARS, TIPS, FITTINGS, MOUNTING & RIGGING
003 - ASSEMBLY GUIDE
004 - MAT'L LIST/MSP
005 - PAINT/FINISH

STEVE LAMINATED AND CARVED THIS 52" DIA PROP USING AMERICAN MAHOGANY

20" CYCLE WHEELS

SHEET 1 OF 4

1923

HARLEY ABLESON

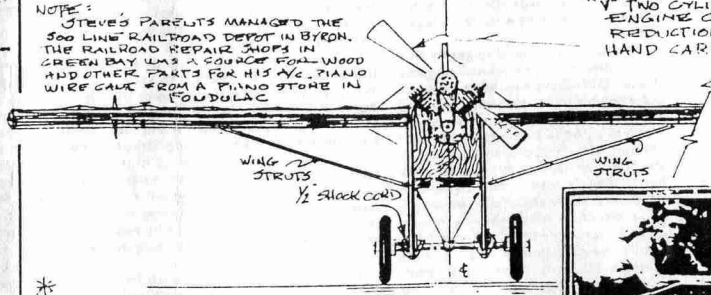
DESIGNED, CONSTRUCTED and FLOWN BY "STEVE" WITTMAN - 1923

* CHECKED and APPROVED, 1994

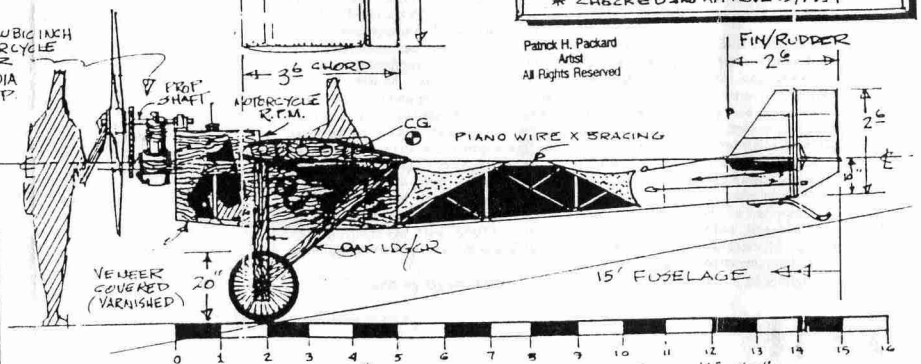
Patrick H. Packard
Artist
All Rights Reserved

NOTE:
STEVE'S PARENTS MANAGED THE 500 LINE RAILROAD DEPOT IN BYRON. THE RAILROAD REPAIR SHOPS IN GREEN BAY WAS A SOURCE FOR ALL WOOD AND OTHER PARTS FOR HIS A/C. PIANO WIRE CAME FROM A PIANO STORE IN FOUDLAC

HARLEY DAVIDSON 61 CUBIC INCH "V" TWO CYLINDER MOTORCYCLE ENGINE CYCLE GEAR REDUCTION TO 52" DIA HAND CARVED PROP







THIS DRAWING IS "VISUALLY ACCURATE" FROM DESCRIPTIONS PROVIDED BY STEVE WITTMAN (1912-1994)

SCALE: ½" = 1'-0"

* FULL SCALE REPLICA PROJECT

SEVERAL YEARS AGO, INTERVIEWS WITH STEVE OCCURED TO OBTAIN HIS RECOLLECTIONS ABOUT HIS FIRST "HOMEBUILT" AIRCRAFT. THIS DRAWING IS THE RESULT OF HIS RECOLLECTIONS. THE FINAL INTERVIEW WAS DURING A WEEKEND SPENT WITH STEVE, IN OSH, DURING THE 90TH BIRTHDAY PARTY. THIS FINAL DRAWING WAS TO BE REVIEWED AND SIGNED BY STEVE THIS SPRING. PLP 3/15/95

STEVE WITTMAN (1904-1995) IN THE TOWN OF BYRON, WISCONSIN IN 1923, IS SHOWN ON HIS HARLEY DAVIDSON CYCLE.

* HE KNEW OF A POSSIBLE ENGINE SOURCE FOR THIS FULL SCALE REPLICA PROJECT

RESEARCHED and DRAWN By: PATRICK H. PACKARD
SOURCE: PERSONAL CONVERSATIONS WITH STEVE WITTMAN 1991 THROUGH 1994
DATED 9-30-94

* NOTE:
THE CONSTRUCTION OF THIS FULL SCALE REPLICA WILL BEGIN THIS SUMMER (1995) AND CONTINUE TO COMPLETION IN 10-12 MONTHS FROM THIS START DATE.

(9)

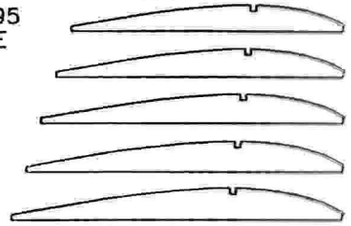
TOTALLY TUBULAR EMBRYO

A 10 gr. INDOOR EMBRYO CARL HEDLEY 10/31/95
1/16" SQ. & 1/16" SHEET BALSA, GANPI TUSSUE

A MIAMA PLAN

(6)

RIB PATTERNS



LIGHTLY GLUE CABIN/WING/LANDING GEAR SUB ASSEMBLY TO TUBE UNTIL C. G. IS ESTABLISHED. SHIFT AS REQ'D TO ELIMINATE BALLAST.

WRAP LIGHT 1/32" X 3" X 18" SHEET AROUND A 1" DIA. DOWEL (BROOM HANDLE) TO FORM TUBE. TARGET WT. WITH END DOUBLERS: 3 gr.

CABIN TRANSITION PIECE 4 REQ'D

SECTION THRU CABIN

NOTE CROSS BRACE

FILL TO MATCH TUBE O. D.

SHIM STAB FOR 0 DEG.

WINDOW AREA

1" WIDE DOUBLER, EACH END.

ADD EMBLISHMENTS (WHEEL PANTS, ENGINE CYLINDERS, PILOT, ETC.) TO SUIT.

6" TO 7" DIA. BALSA PROP.

3/4" DIHEDRAL UNDER END RIB

DIHEDRAL BREAK

0 1 2 3 4 5 6

SCALE IN INCHES, MODIFY SIZE TO MATCH.

"WHITE BRONCO"

CLASS: LEGAL EAGLE

BY: NEWT BOLLINGER 4/95

NOTES
- ALL STRIPS 1/16" SQUARE.
- COVERING - PRESHRUNK WHITE JAP TISSUE, ONE SIDE ONLY ON FLYING SURFACES.
- PARTS MARKED "①" ARE 1/16" RIB SECTIONS LAID FLAT.
- 3° DOWN, 3° RIGHT THRUST
- WASH IN 1/16" RIGHT WING
- FLY RIGHT

(7) 3/4" DIHEDRAL EACH TIP

(8)

A MIAMA PLAN

RIB TEMPLATE
RIBS CUT FROM 1/16" SHEET - 1/16" WIDE

FUSE 5/8" WIDE

1" WIDE

1" WIDE

SLIDE FUEL TUBING OVER RUBBER MTR.

SANDWICH GEAR BETWEEN 1/16" SQ.

CELLOPHANE FROM VCR WRAPPER PACK

WING SETS INSIDE THESE STATIONS

1/16" ALUM. TUBE

1/16" SHT.

FUSE. 1/8" WIDE

OMIT TISSUE ON BOTTOM

NOTE: RUDDER SHOWN UPSIDE-DOWN ON PLAN.

.015" DIAM. WIRE

TRAILING EDGE

LEADING EDGE

1/32" SHEET FORMED ON 3 1/2" DIA. AT 15°

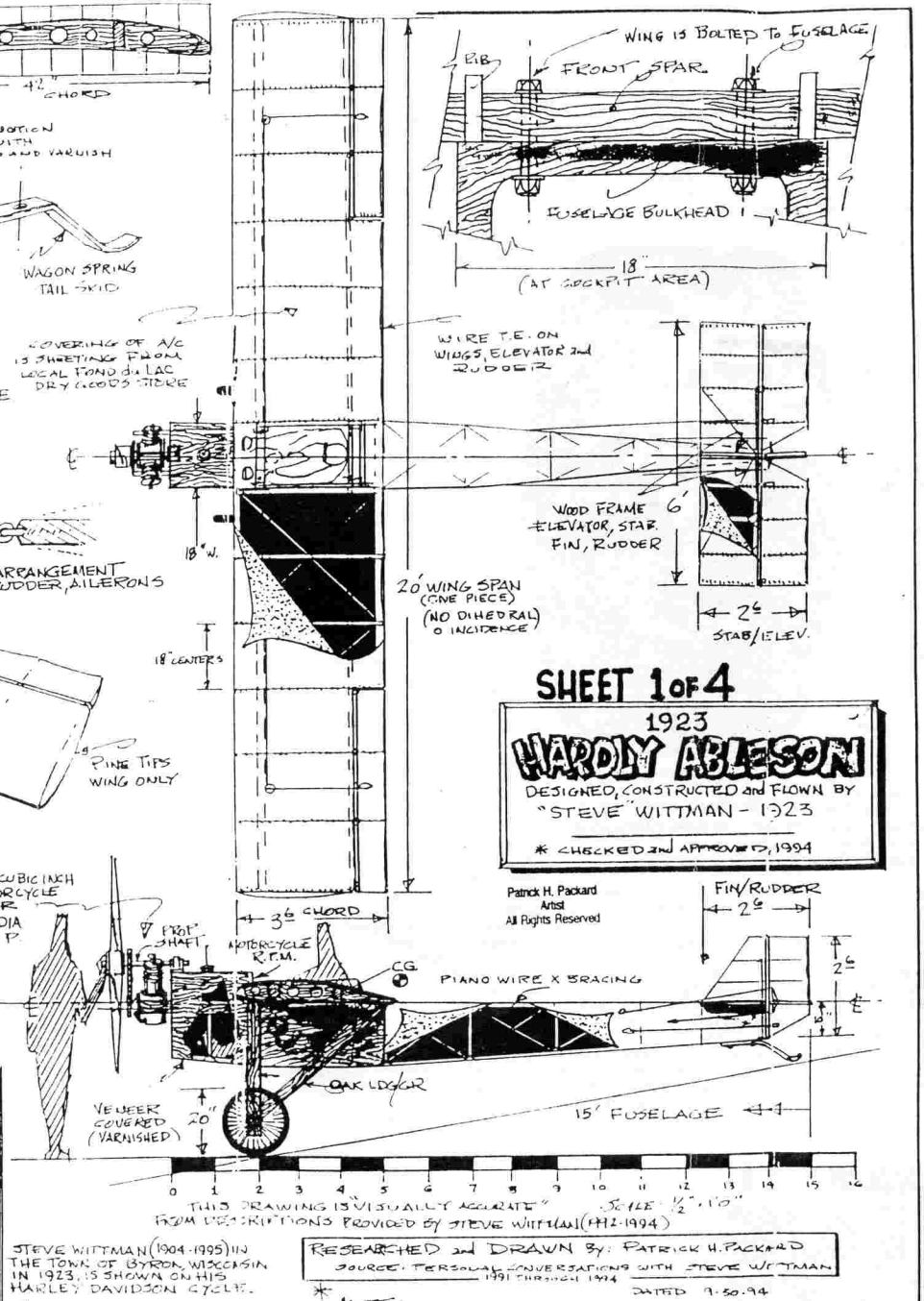
6 1/2" DIA. - 9" PITCH

1/8" DIA

1" DIA. 1/32" PLY WHEELS, 3 1/2" APART

BLACK FELT TIP PEN SHADING

(STAB USES AIRFOIL RIBS)



STEVE WITTMAN

(Continued from page 11)

bent. The pile of parts were hauled back to the railroad shed in Byron, and Steve began to think about purchasing one of the surplus airplanes he had seen during his motorcycle trips around the state.

Unfortunately, no photos or original drawings exist of the Hardly Abelson. In fact, Steve did not talk that much about the airplane, and rarely mentioned it during the course of interviews about his life. A passing comment about it piqued the interest of a longtime friend, artist Pat Packard. Pat continued to question Steve about the airplane, and details began to emerge.

Steve had remarkable recall about the Hardly Ableson, including the dimensions, so the basic outlines of the airplane went down on paper pretty easily, and then Pat and he began to fill in the details, showing him the drawings as time progressed. Steve would then comment and make corrections on the drawings, which were complete at the time of Steve's death - they were to be signed by him upon his return to Wisconsin.

The results are represented by the drawing on pages 16 and 17. This copyrighted general arrangement drawing is one of 4 sheets, and should be suitable for modeling purposes. Readers are cautioned regarding the structural and flight characteristics of the airplane as depicted - no analysis has been done on this airplane in any way, and as mentioned in this article, certain aspects run counter to building practices now accepted as correct. A full size, non-flying replica for display in the Wittman Hangar at EAA Pioneer Airport is now being constructed over the next year by Pat Packard, who generously allowed the reproduction of this plate so that modelers and historians could gain some insight into the first airplane constructed by the late Steve Wittman.

Full size (20x16) xerographic copies of the four sheets that comprise the documentation drawings by artist Pat Packard are available for $12.00. The other three sheets are described on the left side of the drawing.

Write to:
Pat Packard
Box 3373
Oshkosh, WI 54903-3373

ICH MACENTEE 1-813-729-1524

ceived when the Pheasant Airplane Company folded. Steve had been the test pilot for a number of their airplanes, and had raced one of their Pheasant Traveler high-wing monoplanes in local county fair races and airshows. Although too short to be standard Traveler wings, perhaps they have some ancestry in that design. The spars are interesting artifacts and it is hoped that once they are put on display in the soon-to-be constructed Wittman Hangar, more information will come to light regarding their application.

Until later conversations, it was unclear if the wings were cantilever or strut-braced. Without the actual spars to check, it is difficult to confirm, but a passing comment by Steve that he was pretty sure the wing was strut braced to the third wing rib bay (the root aileron bay), coupled with the general layout of the wing, leads to a strong supposition that each wing had a pair of struts running from the landing gear "Vee," at the point where the gear legs intersect at the fuselage, extending out to each spar. The RAF 6 was a very popular airfoil of the period, and was included in a number of U.S. Navy airplanes built during that time.

The landing gear was very simple in layout. Two 3/4" x 3-1/2" oak "vee's" were bolted flat to the sides of the fuselage, with a tubular axle running in slots at the apex of the "Vees." The axle was actually a pair of tubes, one slid inside the other for strength, with the tire mounted on the smaller axle. Bungee cords supported the solid axle in the slot, and served as the only shock absorption in the landing gear.

The construction of the Hardly was done entirely with wood, except for the piano wire bracing (purchased from a Fond du Lac piano store) used in the wings, tail and fuselage. A spring from a wagon was fashioned into the tail skid, and other small fittings were whittled out of scrap steel. The wood for the airplane was transported from Green Bay back to Byron by railroad. The spars themselves were built in the shops in Green Bay. One of the men in the Green Bay shop cut the wood for the spars, and then Steve brought them back to the railroad shed in Byron. Steve had become pretty good friends with a number of Soo railroad men, and he would hop a freight train enroute to the railroad shops in Green Bay, 79 miles to the north, where he was allowed to gather up scraps and other pieces of lumber. Steve then returned home with his wood to construct his airplane.

Steve would sit on a wooden bench type seat with no padding, and no seatbelt. The seat was located between the front and aft spars so that the proper C.G. could be maintained. While traveling around on his motorcycle with friends, he often would stop at airports and talk with the pilots, many were WW I pilots who flew war surplus Jennys and the like. He learned much of his practical aeronautical knowledge he had to that point firsthand, meeting the men who flew and maintained their own airplanes.



Martin Wittman

"Little Steve was only eight years old when his father passed away at the age of 56."

The shed in Byron did not have a workbench, and the airplane was built on sawhorses. After the fuselage was built, Steve mounted the spars on the fuselage to use as a "self-jig" for the wing. He bolted the wing spars into position on the fuselage, and proceeded to build the wing while in place. Only after it was done did he remove it so it could be covered.

A number of areas showed a good eye for detail, and you can see the beginnings of some of his intuitive feel for aircraft construction. The wing ribs all had lightening holes and cap strips, and the use of a steel wire trailing edge showed the young Wittman understood that an airplane needed to be as light as practical to fly well.

On the other hand, one item will give the "willies" to anybody familiar with what today are considered sound engineering practices. The use of the wood screw eyes in tension as control surface hinges was not the best idea - the screw eyes would pull out of the wood due to vibration and/or stress over time. Given the limited flying done with the airplane, and the low speeds involved, this particular fault never came into play.

A 52" prop was carved out of laminated mahogany, driven by the gear reduction. The rear bearing for the prop drive shaft rested in a pillow block mounted on the top of the cowl, and the front bearing and gear support was attached between the two cylinders. The engine was bolted directly to a pair of bearers projecting from the firewall. The gas tank sat directly behind the firewall, with the pilot's feet extending to the rudder pedals mounted on the floor below the tank. Steve sat down inside the fuselage with his upper chest, shoulders and head extending above the top of the fuselage. All the controls were actuated using two-cable controls (pull-pull controls), and the ailerons and elevator were stick controlled. No windscreen was fitted.

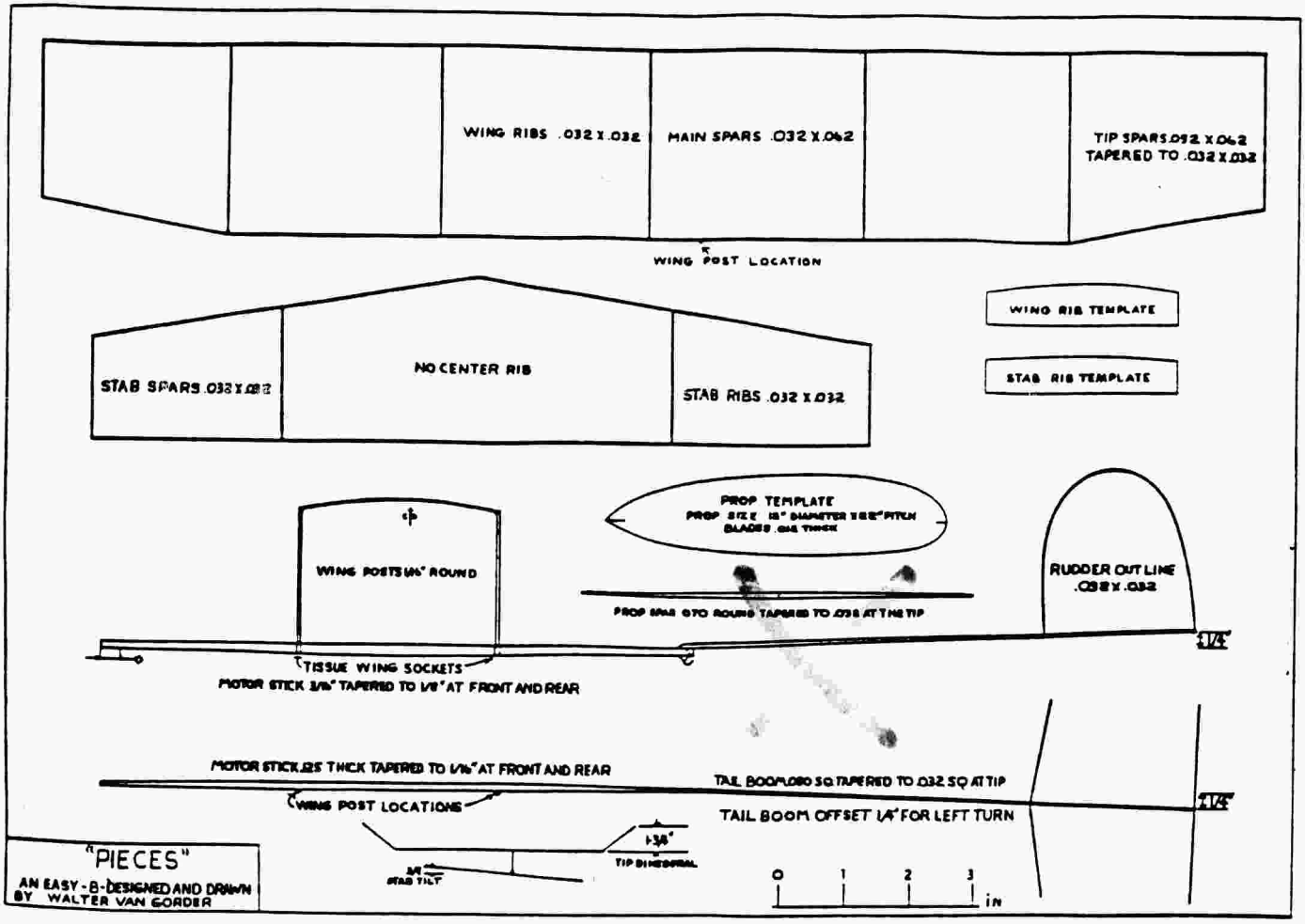
The covering was cotton sheeting from the local Fond du Lac dry goods store, tacked and stitched in place, and then finished with thinned varnish, as were the bare wood sections of the fuselage.

After the airplane was complete, he and a few of his friends pulled it down the road to a farmer's field, where Steve set out to teach himself to fly! The airplane did not have enough power to sustain flight - a bump or two in the field would launch the little airplane into the air for a flight, but he never tried to clear the ever-present barbed wire fences surrounding the field. He also recalled that on a couple of landings he managed to touch down sideways a bit, rolling the motorcycle tires off of the rims. He applied the standard fix used in those days - he wrapped tape around both the tire and rim to prevent the tires from being pushed off the rims during a side load. Steve recalled that he flew it only a few times, primarily because it was very underpowered, with some vibration from the Harley engine.

The last landing of the Hardly Ableson ended in what we would describe as a ground loop, with the landing gear folding and the wire wheels being badly

(Continued on page 17)

MIAMA SQUADRON 11
FLYING ACES
INDOOR CLUB


WING RIBS .032 X .032
MAIN SPARS .032 X .062
TIP SPARS .092 X .062 TAPERED TO .032 X .032
WING POST LOCATION
WING RIB TEMPLATE
STAB SPARS .032 X .032
NO CENTER RIB
STAB RIBS .032 X .032
STAB RIB TEMPLATE
PROP TEMPLATE
WING POSTS 1/16" ROUND
RUDDER OUT LINE .032 X .032
TISSUE WING SOCKETS
MOTOR STICK 3/16" TAPERED TO 1/8" AT FRONT AND REAR
MOTOR STICK .125 THICK TAPERED TO 1/16" AT FRONT AND REAR
TAIL BOOM .080 SQ TAPERED TO .032 SQ AT TIP
WING POST LOCATIONS
TAIL BOOM OFFSET 1/4" FOR LEFT TURN
1/4"
1/4"
3/8"
TIP DIHEDRAL
STAB TILT
0 1 2 3 in
"PIECES"
AN EASY-B DESIGNED AND DRAWN BY WALTER VAN GORDER

(13) BRWG ANY LEGAL EAGLES TO THIS MEET

DEC. 30-31

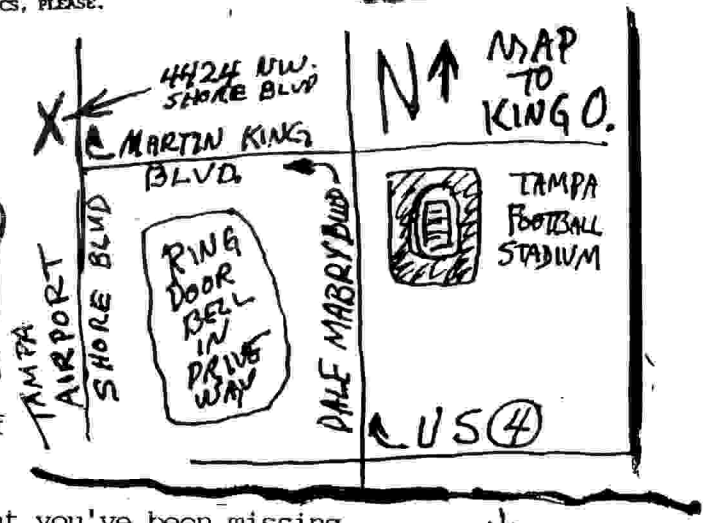
TAKE A NEW YEARS HOLIDAY IN FLA.

MIAMA-DELTA KING ORANGE INDOOR

70 FEET CAT III FLAT UNOBSTRUCTE CEILING - 6000 S.FT.

TWO FULL DAYS OF "COURTEOUS" FLYING FOR EVERY TYPE OF INDOOR MODEL. ALL EVENTS ALL DAYS. SIXTEEN HOURS OF FLYING. NO WAITING FOR YOUR EVENT TO BEGIN OR HURRYING TO GET IN A FLIGHT BEFORE IT'S OVER. NO ELECTRICS, PLEASE.

FAC MASS LAUNCH: WW II
5:00 SAT.
BRING AMA CARDS



COMPLIMENTARY HANGAR PILOT

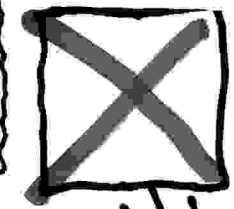
A CHRISTMAS GREETING FROM MIAMA

This issue goes out to most of the ex Hangar Pilots who dropped out last year to wish you a Merry Christmas and to remind you of what you've been missing. Yep, we're still hanging in there, and actually are getting bigger despite the depressing figures that follow: AMA members- 160,000, FF competition flyers 1,500, Indoor FF competition flyers-200, NFFS members- 1,600. MIAMA members-300. So you see there aren't many of us so we better stick together

THE THIN, RED LINE OF STICK AND TISSUE HEROS!

Merry Christmas from Doc and the MIAMA gang

Is There a red X here?



THE DREADED ONE!



LAST ISSUE!

TIME TO RE-UP ALL YOU HANGAR PILOTS! and when you do, be sure to include a note, or some plans and 3-views. Let us know what you've been up to.

One year.....$12.50
Two years....$24.00
Canada.....$14.00 (New Postal
Overseas.....$15.50 Rates)

Send to: Dr. John Martin 2180 Tigertail Ave Miami, FL 33133 USA

THE MIAMI LOCAL SCENE

Yes, I know what you are thinking....WHAT local scene? We have not had any local activity.C'Mon GANG..LET'S FIND SOME NEW FLYING SITES!! To get things stirred up we are scrambling the MIAMA FLYING ACES SQUADRON #11 to do some outdoor FAC flying for KANONES. We will start at TAMIAMI PARK..(Youth Fair Grounds) at Coral Way and 112th Ave on Sunday, Dec. 17. . We will schedule two mass launch events, to be flown in rounds. 9:30 Raceplanes, followed by Golden Age mass launch. There are two Kanones here if we have a field of 4 or more. Of course we encourage you to bring out all the other good FAC stuff including CO/2 and electrics. We will fly from the part of the park that leaves the largest part of the park downwind so look for us UPWIND. We know there is R/C, control line. androckets out there, but we'll be there too. Bring your untrimmed planes and we'll help you get 'em going. Thereafter we will hold an FAC outdoor meet with 2 mass launches everytime, on the last Sunday of each month...starting Jan..28, and Feb. 25.

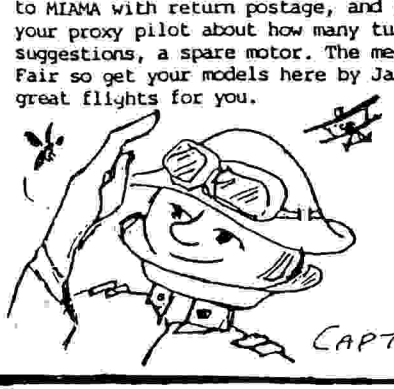
HOW ABOUT MIAMI/DADE COLLEGE? Well, we have one date confirmed on JAN. 20 1996 so get your indoor stuff ready. We have asked for lots more dates ..one a month ...so watch Hangar Pilot and keep building the indoor stuff. Don't forget the Pistachio Inter-Gnats at Youth Fair Jan. 13,14. This date is still not carved in granite.. OK you pasty faced, chalky flanked indoor pilots...let's go outside!!

KING ORANGE QUESTIONS:
CD RICH MACENTEE
813-729-1524

FLYING ACES — MIAMI INDOOR AIRCRAFT MODEL ASSOCIATION — MIAMA — SQDN. 11

ONCE MORE FLY THE PISTACHIO INTER-GNATS

HURRICANE ANDREW blew away the 1993 & 1994 Inter-Gnats, but we're back again and you are all invited to participate in the 1995 proxy meet. No entry fee and plaques to all who enter.. Plenty of plans are around..you can shrink one of Mooney's peanuts down to a 8" span or 6" overall length. After you get your model trimmed, pack it up and send it to MIAMA with return postage, and your scale documents, anda sheet for your proxy pilot about how many turns, flight characteristics, trim suggestions, a spare motor. The meet is Jan. 13,14 at Dade County Youth Fair so get your models here by Jan. 10. We'll do our best to get some great flights for you.



MIAMI PISTACHIO RULES

General: Recognizable model of a full scale, man carrying, aircraft. **Exception:** Model of a model class which is a pistachio sized model of an outdoor free flight model with a built up (Not stick or profile) fuselage.
Size: Built to either a 8 inch span or a 6 inch overall length (Excluding prop)
Construction: No restrictions on materials.
Documents: Full quality of documentation consideration given to entry who supplies a 3-view and at least one photo. Color documentation should ideally be a color photo, but if no photo a color reference should be included.
Flying: Best of 2 of 9 flights, hand launched. Ranking points awarded from best to least as in scale judging.

CAPTAIN PISTACHIO INVITES YOU

TIME IS SHORT WE THANK THE CLUBS THAT RUN THIS AD AND ASK THOSE WHO HAVEN'T- PLEASE DO.

GET PLANES TO MIAMA BY JAN. 10 - MEET IS JAN 13-14

DEC. 9 NO MEET AT MIAMI/DADE SOUTH
DEC. 17: FAC outdoor meet..Tamiami Park 7:30 to ? see page 14 for details.
Dec 29,30,31 OUTDOOR KING ORANGE Palm Bay,FAC events. 904-344-5931
Dec. 30,31, MIAMA Meet. 3 KING ORANGE INDOOR.. See page 13 inside
Jan. 13,14 PISTACHIO INTER-GNATS DADE COUNTY YOUTH FAIR..CALL HOT LINE BEFORE
JAN. 20, Miami/Dade South College 9 to 3 First local meet in a long time. *
Jan. 28 Outdoor FAC event (Like Dec. 17) 9:30 Mass launch, WW II,and Modern
FEB. 3,4: TAMPA..MIAMA INDOOR MEET #4 MacDill AFB FAC Mass Launch..WW II
FEB. 25 Outdoor FAC Tamiami Park 9[30 Mass Launch WW II,Peanut Biplanes
MARCH 23,24..Tampa..MIAMA INDOOR #5. FAC M/L WW I. Also Ed Seay Buzzard Mass launch31..
MARCH 31,,FAC outdoor at Tamiami Park
APRIL 20/21 TAMPA.. MIAMA Meet #6 MacDill AFB... FAC Mass Launch Low Wing.
APRIL 28 FAC Outdoor at Tamiami park.
MAY 18,19..MIAMA INDOOR MEET #7.. MacDill AFB. FAC MASS LAUNCH Biplanes
MAY 29 to June 2 THE BIGGIE... USIC? AMA indoor Nats..Johnson City

* WE HAVE ASKED FOR 4 MORE DATES AT M/D SOUTH COLLEGE...
ALWAYS CALL INDOOR HOT LINE BEFORE MIAMA MEETS 305-158-6363





THE HANGAR PILOT
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