INTREPID

THE HANGAR PILOT

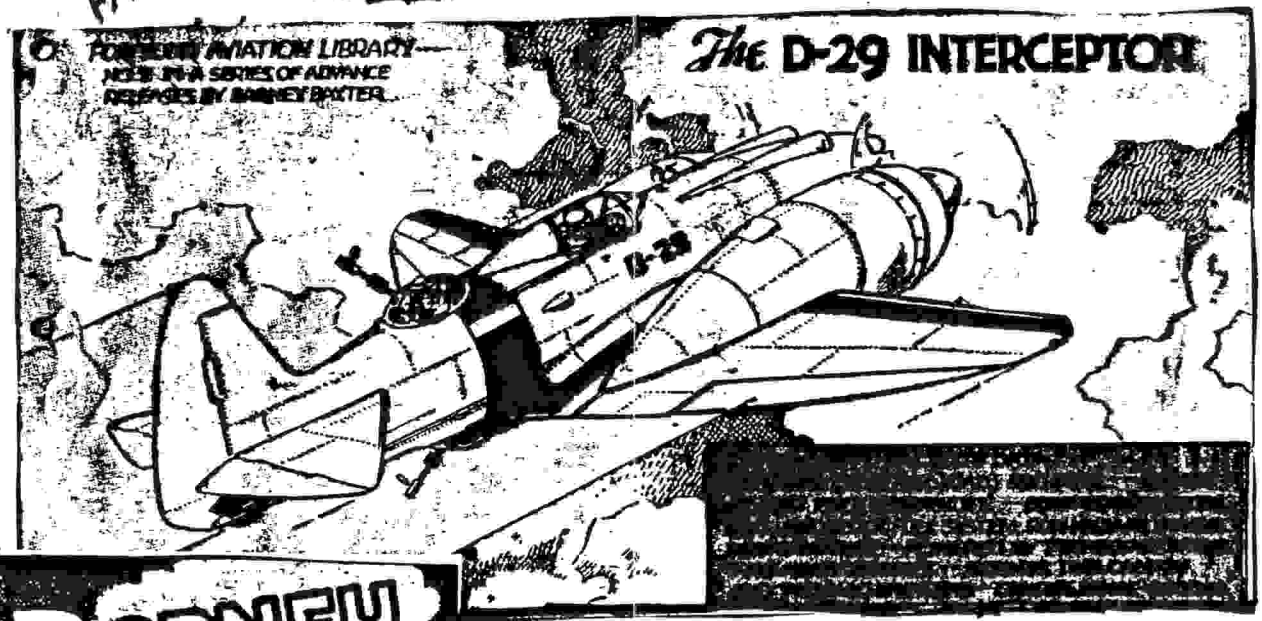
MIAMI INDOOR AIRCRAFT MODEL ASSOCIATION — MIAMA

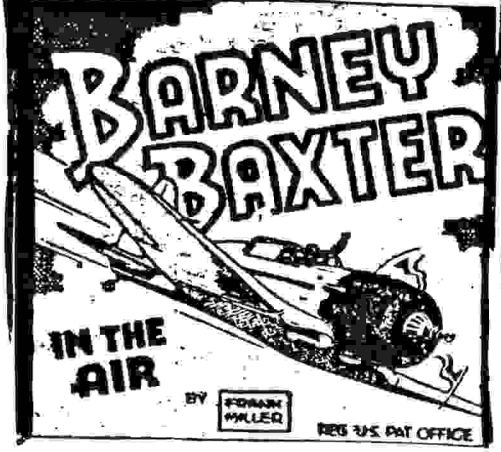
ISSUE 142

20 TH YEAR OF PUBLICATION - INDOOR ISN'T FOR EVERYONE
FAC SQDN. # 11

- RESULTS OF MEET # ONE
- NOSTALGIA - 30'S BUBBLEGUM CARDS
- ANOTHER H.K. WEISS MINUTE MODEL
- ★ • CARBON FIBER USE - T. ARNOLD
- JOHNSON CITY FAC + MIAMA GRAND PRIX
- RESULTS - FLA KEYS MILLARD WELLS ROW

NEW SEASON STARTS





MEET #2 OCT. 26, 27

MACDILL AFB, 9 TO 5 AND

ANNUAL AWARD BANQUET

COLUMBIA RESTAURANT - YBOR CITY
DOWNTOWN TAMPA. OCT 26 7:00 PM



"LIKE A LETTER FROM HOME" Whelan

MIAMA - LAND OF THE FREE FLIGHT AND HOME OF THE PISTACHIO

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, 3-views, complaints, gripes and compliments to: Dr.John Martin Jr., President / Editor, 2180 Tigertail Ave., Miami, FL 33133 USA. phone: 305-858-6363.

EARLY START - NOV. MEET ONE

Hot and humid in Hangar 5. Dave Linstrum did a great job of officiating this one..Well prepared CD,photos, and two BOB PECK events he sponsored. We're off to a great start pilots. Lot's of new planes, names, and faces at MIAMA Meet 1, plus the old standbyes. The Peck Pup mass launch produced a new first time winner..Sidney Gilbert. Bostonian flyer Roger Laudati was third in this event- another "personal best". The Bostonian event,our most popular, attracted Steve Barona,Bill Stoutenburg, and Judi Nunez (Proxy George). Walt Schlesinger modified his Pup into a bizzare biplane...still trimming. Fred Beeson is working to get a minute from his Embryo. Joe Nuszer, newly retired from N.Y. to Florida, has a fleet of endurance models, as does Saul Gottlieb who is making rapid progress. Oldtimer free flight modeler Tom McCoy"s FAC No-Cal Lacey M-10 is pushing the 3 minute mark...not bad for his 1st No-Cal. Juergen Kortenbach, when not flying his complex helicopters, and rubber fan-jets, is trimming an FAC 10z. 24" Dauntless that looks like at least a 90 sec. flyer. Tom Flanagan spectated an is "reinspired". As usual Obarski and Trivin won most of the events, BUT IT ISN'T EASY. Wells won Pistachio and Linstrum won two events! Wayne set two Florida State records and tied another one. with his fleet of 14-Bis's. Mini Stick is the most competative event with times very alike. Build one as an entree to endurance flying. 4 minutes seems a long time..it is.

Next Meet is also at Hangar 5 Oct 26,27..After the Mass Launch, 5 PM Sat.(WW I Biplanes) we'll have our annual awards dinner at the famous Columbia restaurant in old Ybor City in downtown Tampa. Cocktails 7:00,Dinner 8:00, Awards 9:30. Our speaker on Florida aviation history is from the Florida Aviation History Soc. .THIS PROMISES TO BE A GREAT EVENING.

BOSTONIAN EVENT — CharismaX best 2 of 5 flights = Total

1.Wayne Trivin,More Color	1.11	3:11	2:54	404
2.Dick Obarski GEN	1.10	2:30	2:51	353
3.George Nunez Orig.	1.12	2:35	2:35	346
4.Millard Wells Wee Bost.	1.12	1:53.4	2:30.8	294.5
5.Sidney Gilbert 7-Up	1.10	1:27	1:33	198
6.Steve Barona Pup	1.10	:49.5	53.3	113
7.Bill Stoutenburg Pup	1.10	:36	:37	81

MASS LAUNCH EVENT RESULTS:

FLYING ACES WORLD WAR II ...7 entries

1.George Nunez Avenger A

2.Millard Wells P-51

3.Walt Schlesinger ME 109

FAC CANONE!

BOB PECK BOSTON PUP MASS LAUNCH:

1.Sidney Gilbert
2. Judi Nunez (Proxy Geo. Nunez)
3. Roger Laudati
4.Steve Borona
5. Bill Stoutenburg
6.Walt Schlesinger
7.Dave Linstrum

SPONSORED BY DAVE LINSTRUM

RESULTS MEET 1 SEPT 21, 22 1991 CD DAVE LINSTRUM (2)

PEANUT SCALE

	Plane	Static Score	Two best flights		Total
1. Wayne Trivin	14 Bis	111	1:09	1:22	186.5 TIES OLD RECORD
2. John Martin	Waco floatplane	103.5	1:01.5	1:04	166.2
3.George Nunez	Turbo Beaver	86.8	1:08	1:04	152.8
4.Millard Wells	Douglas Y10-43	76.0	1:03.8	1:06	140.8
X. " " "	Waco Cabin	80.3	:51	:53	132.5
X. " " "	Wiley Post A	87.5	:50.3	-	115.5
5.Bill Stoutenburg	Cougar	68.0	:27.4	:34.7	98.9

FLYING ACES SCALE

	Static	Best flight	Fly Points	Total
1.Wayne Trivin 14 Bis	82	1:49	95	NEW RECORD 176.5 ☆
2.John Martin Beardmore Inflex.	83	:53.5	53.5	136.5
3.George Nunez Avenger	65	1:08	64	129
4. Millard Wells Stinson	57	1:04	62	119
3. " " " Waco E	70	:59	59	129 TIE FOR THIRD
X. " " " Fokker DVii	74	:41	41	115
X. " " " Avenger	64	:35	99	
5. Walt Schlesinger Porter	XX356	:23	23	79

PISTACHIO SCALE

	Stat. Pts.	Best Flight	FLY Pts.	Total
1.Millard Wells Martin MO-1	2	:49	2	4
2.Dave Linstrum Martin MO-1	1	:33.5	4	5
3.John Martin Windham	3	:46.2	3	6
X.Dave Linstrum Wee Bee	2	:27.0	5	7
4.Wayne Trivin Cougar	5	1:30	1	6

COCONUT SCALE

1.Dave Linstrum Martin MO-1	1	1:12	1	2	
2.Millard Wells Ford 2 AT	1	1:03	2	3	
3.Doc Martin Beardmore	2	:52.5	3	5	
4.Gil Coughlin (Nunez) Maubousin	3	:52	4	7	

MINI STICK

1.Dick Obarski	6:04
2.Wayne Trivin	5:55
3.Doc Martin	5:44
4.Joe Nuszer	5:34
5.Millard Wells	4:33

FAC NO-CAL

1.Dave Linstrum Cassutt	3:15
2.Tom McCoy Lacey M10	2:50
3.3.Wayne Trivin 14-Bis	2:15
4.Walt Schlesinger	:09

EMBRYO ENDURANCE

L.Wayne Trivin	487
2. Doc Martin	367
3.Fred Beeson	132
4.Walt Schlesinger	09

PENNY PLANE

1.Dick Obarski	8:55
2.Wayne Trivin	8:00
3.Saul Gottlieb	4:16

EZB EVENT

1.Dick Obarski	12:23
2.Joe Nuszer	10:54
3.Wayne Trivin	10:33
4. Rog. Laudati	4:02

FEDERATION ROG

☆ NEW FROG RECORD!

1.Wayne Trivin	5:17
2.Dick Obarski	3:01

CATAPULT GLIDER

1.Wayne Trivin	107.8

16 CONTESTANTS FLEW IN 65 EVENTS - A GREAT START - INDOOR PILOTS

(4)

1990-1991 SEASON

MIAMA HALL OF FAME

BEST 4 OF 5 MEETS THE GULF WAR SEASON

STATE CHAMP - 1990/1991 - WAHNE TRIVIN

RUNNER UP - DOC MARTIN

NINTEETH SEASON

THANKS FOR THE MEMORIES AND TO ALL YOU HANGAR PILOTS WHO FLEW AND MADE OUR NINTEETH SEASON A SUCCESS

TOP TEN OVERALL POINTS:

1.Wayne Trivin	107
2.Doc Martin	85
3.Dick Obarski	60
4.Dave Linstrum	56
5.George Nunez	51
6.Millard Wells	33
7. Dave Aronstein	29
8. John Barker	23
8.Ron Ganser	23
10Walt Everson	15

FAC NO-CAL SCALE

1.Dave Linstrum } TIE	16
1.Doc Martin } TIE	16
3.Wayne Trivin	14
4.Dave Aronstein	8
5.Walt Everson	7
5.John Voorhees	7
7.Walt Schlesinger	4
8.Bill Stoutenburg	3
8.Dick Obarski	3
10. Mike Nassise	2

BOSTONIAN EVENT:

1. Wayne Trivin	30
2. Dick Obarski	27
3. Dave Linstrum	16
4. Millard Wells	13
5. Dave Aronstein	12
6. Carl Hedley	10
6. Ron Ganser	10
8.Sid Gilbert	9
9.John Barker	8
10.Bill Stoutenburg	5
10.Doc Martin	5
12. Judi Nunez	3
13.Mike Nassise	2

FEDERATION ROG:

1.Dick Obarski } TIE	10
1.Wayne Trivin } TIE	10
3.George Leffler	2
4. Martin & Aronstein	1

EVENT RESULTS:

PEANUT SCALE EVENT

1.Wayne Trivin	24
2.Doc Martin	21
3.George Nunuz	19
4.Millard Wells	12
5.Carl Hedley	7
6.Bill Stoutenberg	5
7.Judi Nunez	4
8.Walt Everson	3
8.Jim Miller	3
8.Mike Nassise	3
11. Dave Linstrum	2
12. W. Gibbs	1
13.Juergen Kortenbach	1

INTERMEDIATE STICK

1.Ron Ganser	3
2. Dick Obarski	2
3. John Barker	

FAC EMBRYO ENDURANCE

1. Wayne Trivin	18
2.Doc Martin	10
3,Dave Linstrum	9
4.Walt Everson	5
4.Dave Aronstein	5
4. Bill Criss	5
7.Rich MacEntee	2
8. Mike Nassise	1

EASY BEE EVENT:

1.Dick Obarski	9
2.Stan Chilton	8
3.Walt VanGorder	7
4. Gary Underwood	5
5.Dave Aronstein	4
6.John Barker	2
6.R. Laudati	2
6.Millard Wells	2
6.Wayne Trivin	2
10.George Leffler	1

CATAPULT GLIDER

1.Dick Obarski	4
2.Wayne Trivin	3
3.John Martin & John Voorhees	1

FLYING ACES SCALE

1.Doc Martin	18
2.Dave Linstrum	17
3.Wayne Trivin	17
4.Millard Wells	9
5. Judi Nunez	6
6. Rich MacEntee	3
7.Bill Criss	3
8. Walt Schlesinger	3
9. Dick Obarski	2
10.Dave Linstrum	2

COCONUT SCALE

1.Dave Linstrum	14
2.Doc Martin	13
3.George Nunez	8
4.Millard Wells	4
5..Walt Schlesinger	1
6.Rich MacEntee	1

ALSO JOHN LEBLANC 4

NOVICE PENNY PLANE

1.Dick Obarski	12
2.Wayne Trivin	8
3.John Barker	7
4.John Voorhees	5
5.Ron Ganser	4
6. Walt VanGorder	3
7.George Leffler	2
8.Walt Everson	1
9. Millard Wells	1

PISTACHIO SCALE

1.Doc Martin	8
2.Wayne Trivin	7
3.George Nunez	5
4.Dave Linstrum	3
5.Millard Wells	2
6.Jorgen Kortenbach	2

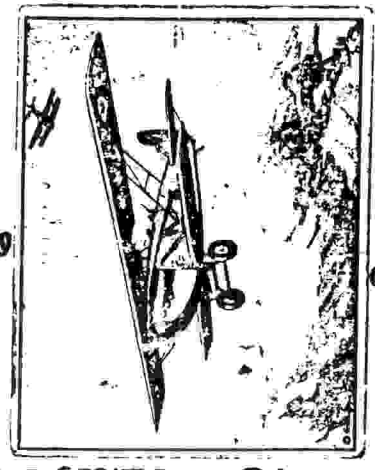
MINI STICK:

1.Wayne Trivin	3
2.Dick Obarski	2
3.Doc Martin	1

NOW'S THE TIME - RENEW YOUR AMA LICENSE



3



6



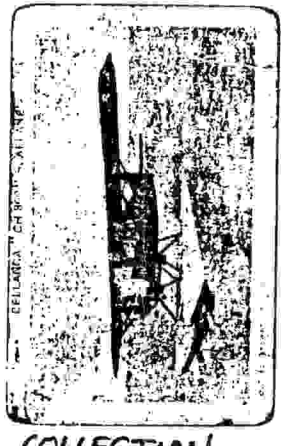
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5

THE GREAT BUBBLEGUM



2



5



8

COLLECTION



1



4



7

PILOTS, If you remember this stuff you GOTTA be in your sixties ! I,personally,had all these in my collection. Fred Komlosy contributed them to H.P. to help you regain some of that old enthusiasm.

9

Czechoslovakian Avia Fighter

AIRPLANES 6

The "Avia 534" is one of Czechoslovakia's leading fighting type planes. The Avia Company is part of the well-known Skoda works, manufacturers of both airplanes and aero engines. The "534" is a speedy one-seat, unequal-span biplane. Built on riveted steel spars, the wings are covered with fabric. The forward portion of the fuselage is armored with metal panels, the aft section with fabric. The adjustable seat has a back-type parachute. For armament, four fixed guns are set in troughs and fire through the airscrew. Powered with a 650 h.p. Hispano-Suiza 12-cylinder water-cooled engine, its top speed is 252 miles per hour at 14,760 feet. It climbs 16,400 feet in 5 minutes and has a service ceiling of 34,768 feet. Undercarriage is of the split-type, with half-axle hinged beneath the fuselage. Wheels are enclosed in streamlined casings. The pilot's cockpit can be totally enclosed, when desired. Oxygen apparatus, radio and fire-extinguisher complete the equipment.

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8

Royal Canadian Air Force Vickers "Vedette"

AIRPLANES 8

Still one of the most popular planes with the R. C. A. F. is the Vickers "Vedette" flying boat shown moored to a glacier during patrol duty in Canada. This is a three-seat flying boat used principally for patrol and photographic work. Biplane type, with structure of wood, the "Vedette" is powered by a single 300-h.p. Wright "Whirlwind" air-cooled engine. It attains a maximum speed of 110 miles per hour and a cruising speed of 90 miles per hour. Its cruising range is 4½ hours; service ceiling, 14,000 feet. In the nose of the hull is located a large cockpit for the observer or photographer. The pilot's cockpit is under the leading edge of the wing, seating two, side-by-side. Pilot and observer's cockpits may be enclosed with detachable covers. Canadian Vickers was the first company to manufacture airplanes on a commercial scale in the Dominion. It has made a specialty of winter landing equipment and floats, equipment essential for summer operations in the north.

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7

Swedish Junkers Bomber

AIRPLANES 7

Although Sweden is a comparatively small air power her air force is very efficient. She has recently added forty German Junkers equipped with Swedish-built Bristol "Mercury" engines. This bomber with retractable landing gear has a top speed of 226.6 miles per hour, can climb 9,840 feet in 9 minutes and has a service ceiling of 22,960 feet. Like the German "Ju-86K" bomber, the Swedish version carries a crew of five. It has three gun turrets, one in the nose with full visibility and two in back of the trailing edges of the wings above and below the fuselage. Loaded with bombs the big all-metal plane weighs a gross 18,040 pounds. The span of the craft is 73 feet, 9 inches. In general it looks like a Boeing bomber might look with a Lockheed tail. Even when loaded with more than three tons of bombs the ship can do better than two hundred miles per hour!

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6

Spanish Loring Reconnaissance Ship

AIRPLANES 5

Very little is known of Spain's present airplane manufacturing facilities, but before the revolution the Loring Company of Madrid was making a smart two-seat reconnaissance biplane known as the "Loring R-3." Equipped with a 600 h.p. Hispano-Suiza 12-cylinder water-cooled engine with its main fuel tanks in the upper wings, the "R-3" has a top speed of 146 m.p.h. It can climb to 3280 feet in 3 minutes and has a service ceiling of 26,250 feet. Although full details of the armament are not available it is known that the "Loring R-3" has racks for forty 11-kg. bombs or eight 50-kg. bombs under the fuselage. The observer has a movable gun, complete wireless and photograph equipment. The fuselage is a rigidly braced, welded, steel-tube structure, covered in the forward section with aluminum, aft with fabric. Our picture shows an "R-3" making a reconnaissance flight, pursued from the air and attacked from the ground.

(kg. = kilogram = approximately 2.2 pounds)

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5

BECCO CHOCOLATE PEPPERMINTS • BECCO HONEYCOMB • BECCO BUTTERS
BECCO BUTTER TOFFEE • BECCO CHOCOLATE CREAMS • BECCO CARAMELLOS • BECCO CHOCOLATE CREAMS

BELLANCA MONOPLANE

This cabin-type plane (with wheels instead of floats) has twice crossed the Atlantic. A plane of proven ability and durability. Equipped with a Wright Whirlwind engine and adaptable for land or sea flying. Used extensively by business concerns and pleasure fliers.

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4

Guns of the Maginot Line in Action

FORTIFICATIONS 2

Europe's No. 1 fixed frontier, made of steel and concrete, is the French Maginot Line, extending all along France's eastern border. Outside, the fortification looks like a series of pill-boxes, with revolving turrets from which guns are raised or lowered. Barbed wire and rails stuck in the ground are designed to stop German infantry and tanks. Metal ventilators hidden on the hillsides are part of the ventilation system of the interior. Inside there are facilities for garrisoning 300,000 men! Elevators and staircases lead into each "pill-box" or casemate. At a signal the whole fortification can be put into action, in defense of France, and it is admitted as a protection to England as well. All the key points are set below the surface, invulnerable to shells and bombs. The Maginot Line looks across the Rhine at the German Siegfried Line, Germany's answer to France's late War Minister André Maginot, who began this fortification bearing his name in 1925.

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(6)

3

No. 40 — BERNT BALCHEN

Was born in Norway, 1899; accredited with more flying over ice and snow than any other aviator; was pilot with Amundsen-Ellsworth Relief Expedition, the Amundsen-Ellsworth-Nobile Arctic Expedition. In 1928-1930 was chief pilot for Admiral Byrd's Antarctic Expedition. Here at the bottom of the world he was lost for 3 days, was finally rescued by party headed by Admiral Byrd.

One of a series of 144 cards

SKY BIRDS

NATIONAL CHICLE COMPANY
Cambridge, Mass., U. S. A.
Makers of Quality Chewing Gum
Copr. 1934

2

United States "Flying Fortress"

AIRPLANES 1

The powerful four-engined Boeings, known as "Flying Fortresses," are the latest type bombers used by the U. S. Army Air Corps. Stout and swift, they are the largest land planes built in this country, weighing a gross 16 tons each, with complete living quarters for ten men. For bombing enemy concentrations there is nothing to equal them. By flying in close formation and all dropping bombs they can assail picked areas with great damage. Five gun emplacements on each plane, four of which are shaped like streamlined "blisters," make them practically attack-proof! There is no place in the all-metal plane that can be attacked without placing the attacking airman under fire from at least four machine guns. Perfectly streamlined, with retractable under-carriage, they can do 255 miles an hour, with a cruising range of 3000 miles. One bomber can destroy a battleship. Note the design of a ship chalked on the terrain as a target; also the rows of obsolete planes "getting, theirs."

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1

Italian Breda Fighters

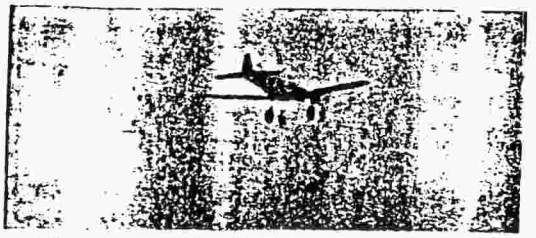
AIRPLANES 3

The Breda company has developed two brilliant new fighters of the two-place class. One is the "Breda 65" shown in close-up; the other is the "Breda 64," an earlier version. The "65" is a low-wing, two-place, bomber-fighter with a top speed of 267 miles per hour. It is powered by a single Gnome-Rhone, fourteen-cylinder, radial air-cooled, geared and supercharged engine. Detachable metal panels cover the forward portion of the plane while the after portion uses fabric. An armor-plate panel is set directly under the cockpits. Four Breda-Safat guns in the wings fire outside the airscrew. Two are of 7.7 mm. caliber and are movable in a vertical plane; the other two, of 12.7 mm. caliber, are fixed. They have a special pneumatic recocking gear. The observer has twin machine guns mounted on a ring and operated by a hydraulic gear. The "Breda 65" has racks for twelve 4-kg. bombs and a range of 621 miles with bomb load.

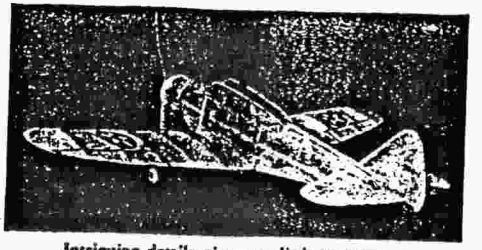
(mm. = millimeter = .039 inches, kg. = kilogram = 2.2 pounds)

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The completed model in full flight shows great steadiness



Intriguing details give a realistic appearance

BUILDING THE DOUGLAS TORPEDO BOMBER

By HERBERT K. WEISS

A Realistic Model of a New U. S. Navy Plane—Fine Performance Is Combined With Simple Construction

ONE of the latest of the navy's sleek torpedo planes is the Douglas TBD-1. Flying under a double classification, the TBD-1 carries either bombs or a torpedo at an estimated top speed of 235 m.p.h. Since the ship will be used aboard carriers, space is an important factor, and the wings of the TBD-1 fold up and in on themselves from a chord about midway to the tip. The experimental version of the torpedo-bomber had a straight cockpit housing, but the accepted version has had the housing humped, probably to accommodate the directional loop of a radio antenna. The engine is a Twin Wasp of 850 horsepower.

Because of the comparatively small size of the model, there are certain points which must be stressed in construction. They are as follows:

Sand the fuzz off all balsa used in the model before using it: the frame will be lighter, cleaner and stronger. Use plenty of cement; the small additional weight is negligible against the gain in ruggedness and freedom from warping. Keep the tail of the model light; every weight you put on the nose for balance will mean just that much more weight that the ship has to carry, and it's a small ship! And remember, a little mistake on a small ship is equivalent to a pretty big one on a large model.

> Some model builders think that a small plane will not fly well. This little ship will explode such an opinion. It has been flown repeatedly for more than 25 seconds indoors and outdoors; one of the few small models with a big performance.

Wings and Tail

Make the wing first, as it's used as a jig for the fuselage. The frame can be assembled on the plan, if the left wing panel is traced on another sheet of paper and pinned down in its proper place. The wing is built in one piece. Put waxed paper over the plan, pin the leading and trailing edge in place, and add the ribs and wing tip. Use plenty of cement. The bamboo for the wing tip can be bent over a flame, or, as it is very thin, it will bend easily without heating and can be tied in place with silk thread while the cement is drying.

When the frame is dry remove it from the waxed paper and with a razor blade cut loose surplus cement and any waxed paper which may have adhered. Crack the spars just outside rib 1 and give the wing 3/4" dihedral at each tip. Re-cement the spars, and when the cement is dry shape the leading and trailing edge to airfoil shape with a razor and sandpaper.

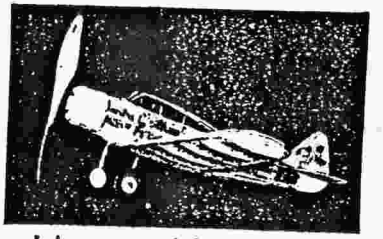
Trace the tail surfaces on 1/32" sheet balsa and cut them out. The stabilizer is made in one piece. Sand the pieces smooth. Cement the 1/32 x 1/16" stiffeners on top of each side of the stabilizer.

Fuselage

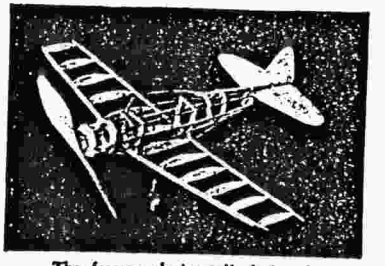
Cut two halves of each bulkhead from 1/16" sheet. As the fuselage must stand handling do *not* substitute 1/32" sheet. Cement the halves together, using small lengths of 1/32" square bamboo across the grain to stiffen the assembled bulkhead crossways at the joint. Cement bulkheads C and D to the wing center section in the position shown on the plan. Now cement the 1/8 x 1/16" main side stringers to these bulkheads, and add the remaining bulkheads to the 1/8 x 1/16" stringers, being careful to keep the bulkheads lined up correctly. Complete the fuselage frame by adding the 1/32" square bamboo stringers, formers B and D, and the 1/16" square balsa top and bottom stringers. The tail post is 1/16 x 1/8" balsa.

Cowl sections are round, so that the diameter of the cowl formers can be taken from the plan, and the sections drawn on sheet balsa with a dime compass. Cover the cowl with 1/32" sheet balsa, and sand the whole cowl after assembly until it is smooth. A small hard-wood nose plug is used

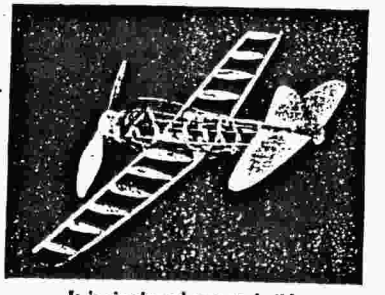
(Continued on page 51)



It has a comparatively large "prop"

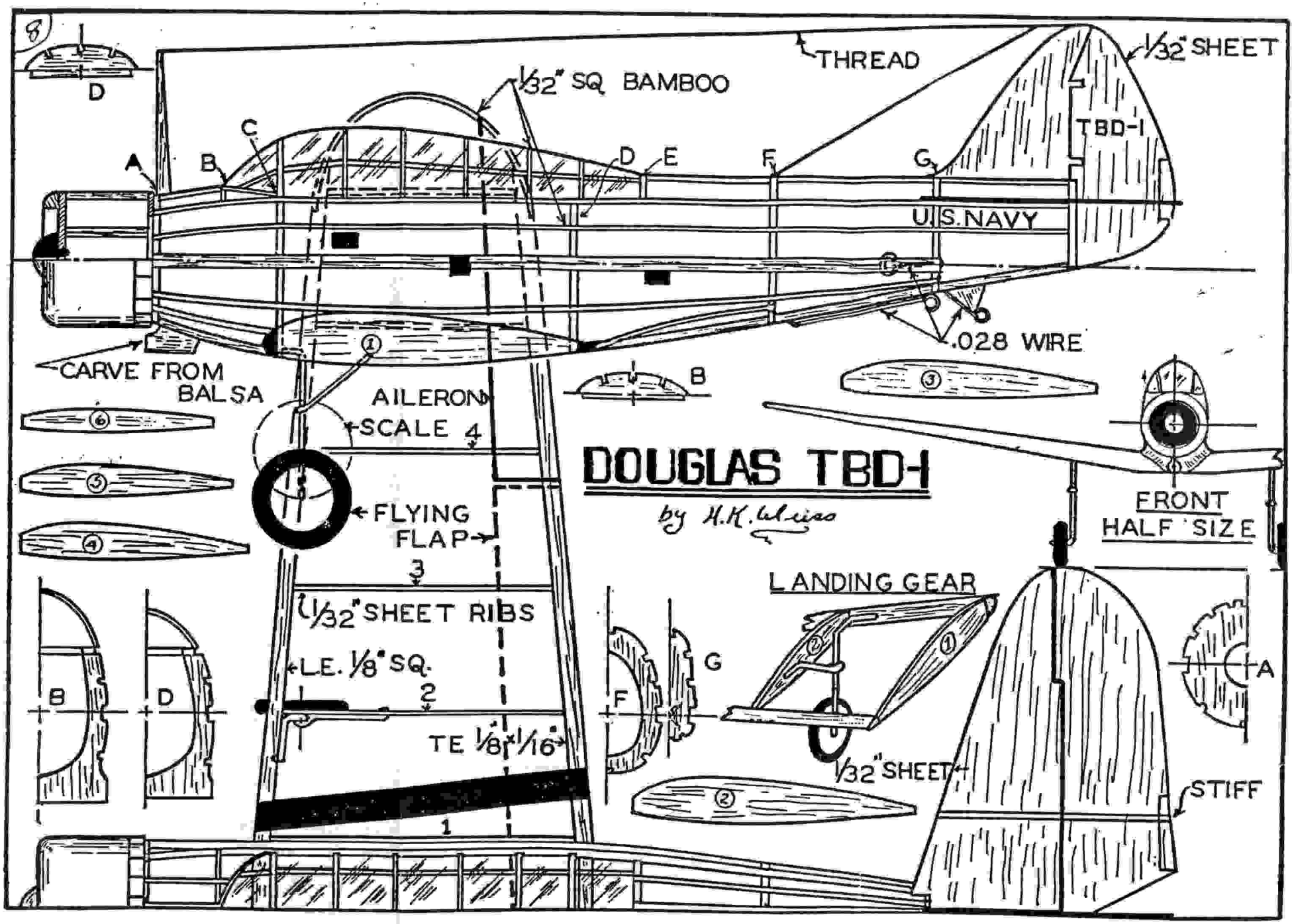


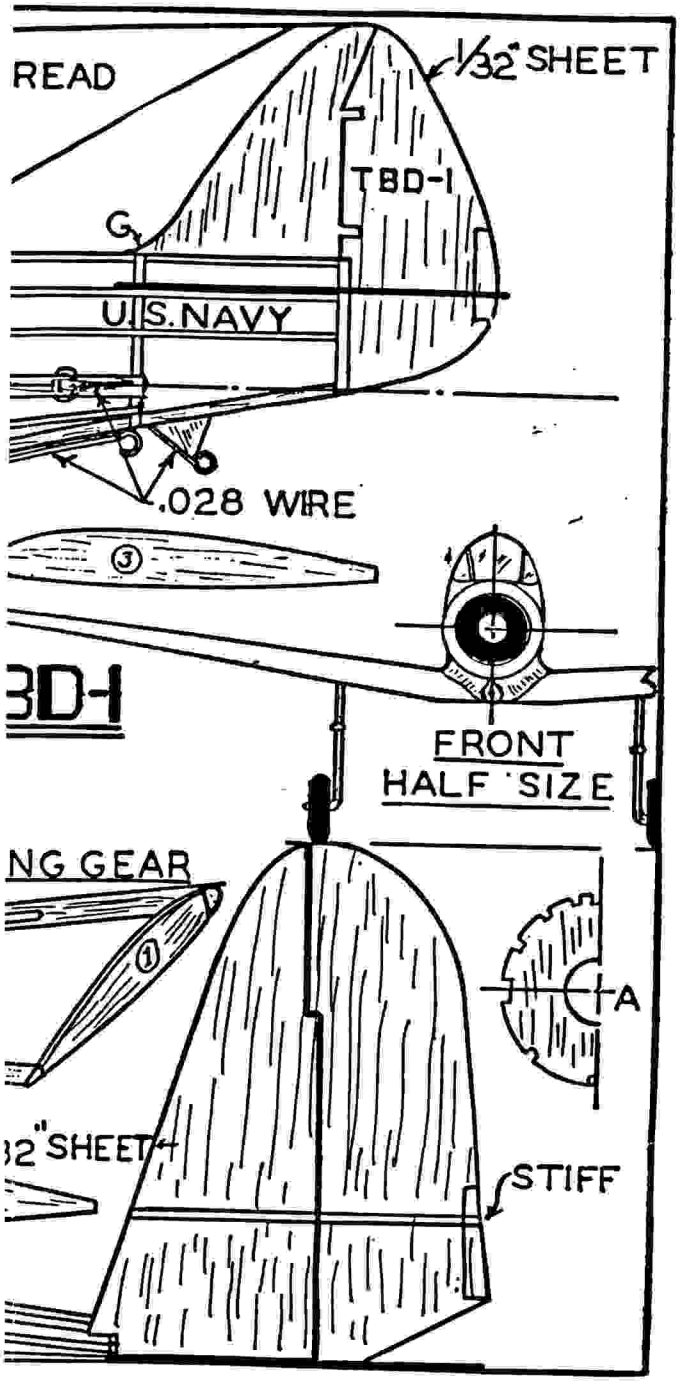
The framework is well designed



It is simple and easy to build

FROM JOHN VOORHEES


8
D
THREAD
1/32" SQ BAMBOO
1/32" SHEET
C
TBD-1
A
B
D
E
F
G
U.S.NAVY
.028 WIRE
CARVE FROM BALSA
AILERON
SCALE 4
B
DOUGLAS TBD-1
by H.K. Weiss
FRONT
HALF SIZE
FLYING FLAP
3
LANDING GEAR
1/32" SHEET RIBS
LE. 1/8" SQ.
2
TE 1/8" x 1/16"
G
F
A
1/32" SHEET
STIFF
1



Building the Douglas Torpedo Bomber

(Continued from page 21)

and can be obtained at any model counter.

The plan shows the correct number of cockpit formers. Some may be omitted for simplicity. Make the formers from 1/32" square bamboo.

Assembly and Covering

Sand the fuselage and wing carefully so that there will be no projections to spoil the covering. Cover the model carefully with white tissue, using small strips on the curved parts of the fuselage. The landing gear is attached to the wing before covering, and the tissue is cut to fit. All wire parts are .028 wire.

Spray the model lightly with water, and when it is dry, sand off the fuzz which will appear at the leading and trailing edges of the wing and at sharp corners on the fuselage. Give the model one coat of clear dope which has been mixed with thinner in about a half to half ratio. Dope the cowl and other parts, but *do not dope the tail surfaces.* Sand any roughness which may appear, and then cement the tail surfaces in place. To insert the stabilizer, slit the tail post with a razor, push the stabilizer into position and cement it, then re-cement the tail post.

Add as much detail as may be desired. The model has a standard navy insignia, including stars on top and bottom of each wing tip.

Propeller

Carve the propeller from hard balsa, using a block 4-3/4" x 7/8" x 1/2", or use any medium pitch prop of that size that you may have. *Do not use a high pitch prop,* for the torque will make the model difficult to control laterally.

Flying

The model should balance just about right if hardwood wheels are used. Test it by gliding it. If it stalls, check the tail attachment, and if there is any perceptible negative incidence cut the stabilizer loose and readjust it to zero incidence. If the model still stalls, sand the tail surfaces. Add weight to the nose only as a last resort. If the model dives warp

MODEL AIRPLANE NEWS

ie elevators up slightly or use lighter heels.

If the model spiral dives under power, arp the trailing edge of the inside wing own slightly.

Use two strands of 1/8" flat rubber, ubricated, with about a half inch of slack. For long flights after the model is adsted, use a winder.

BUILD LIGHT - CAN YOU EXCEED THE ORIGINAL "25 SECONDS"?

SO LONG, DR SEUSS - WE'LL BE SEEING YOU IN SOLLA SOLLEW!



(10) MIAMA GRAND PRIX JOHNSON CITY RESULTS JUNE 1991

COCONUT SCALE EVENT: 11 entries, 8 flew

	Static	Best fly	Fly Score	Total
1. Walt Eggert Verville Air Coach	3	2:23	2	5
2.Dave Rees General Aristocrat	1	1:58	5	6
3.Dave Rees Zippy Sport	2	2:08	4	6
4.Stu Weckerly Found	6	2:19	3	9
5.Dave Aronstein Cessna	9	2:31	1	10
6.Doc Martin BMW 20b	6	1:29	7	13
7.Judi Nunez Taylorcraft	9	1:34	6	15

Did not fly..Dave Linstrum Dornier Komet,Pilatus Porter, George Nunez, Potez 36, Gil Coughlin, Mauboussin PM IX.

COCONUTS are capable of two to three minute ROG flights.All who saw them fly were very impressed. They are the most realistic and majestic of all scale models. Anyone who saw the mass launch ROG at JC will never forget it..... Next year... you be an entrant.

MASS LAUNCH of EIGHT COCONUTS: 1. Dave Aronstein
2.Walt Eggert
3.Dave Rees

PISTACHIO SCALE EVENT: 18 entries, 11 flew

1.George Nunez Nieuport 42-c	1	46.8	3	4
2.D. Baird Hollandair Libel	7	51.2	2	9
3.Chuck Wojtkiewicz Microplano Veloz	6	25.8	6	12
4..Paul Avery Huntington H-12	14	1:01	1	15
5.Nancy Beitz (Proxy) DH-6	10	25.2	7	17
6. Doc Martin Windham Tandem	13	28.7	4	17
7.Dave Linstrum Wee Bee	15	24.0	8	23
X. George Nunez Sopwith Tripe	5	27.4	2	7
X. " " " " Fokker DVIII	⅜	22.5	9	12

MODEL OF A MODEL: Did not Fly: 7 More models
1. Burr Stanton Korda Wakefield 1:54
X Red Guppy 0:49

MEET #2 OCT. 26,27 HANGAR 5
MACDILL AFB 9705 WWI BIPLANE MASS LAUNCH
AWARD BANQUET - COLOMBIA RESTAURANT
7TH AV. BETWEEN 21+22 ST.
YBOR CITY (EXIT FROM CROSSTOWN EXPESSWAY) 7:00 PM
FLORIDA AVIATION HISTORY SPEAKER + TROPHY PRESENTATION

FROM JIM MILLER - RESULTS OF JOHNSON CITY FAC EVENTS FROM JUNE 1991

JIM WANTS MORE ENTRIES IN 1992!

HI-WING MONOPLANE (5 ENTRIES)

		SCALE	FLY PTS	TOT
DON SLUSARCZYK - FRED KOSSEN		48	78½	126½
JACK McGILLIVRAY	CURTISS XF13C-1	53	67½	120½
CHUCK SLUSARCZYK	LUTON MINOR	43	72½	115½

BIPLANE (5 ENTRIES)

DAN DELOACH	VOISIN	52	82½	134½
JACK McG	ISAAC'S FURY	50½	82½	133
WAYNE TRAVIN	14bis	54	71	125

EF AY CEE!

WWI COMBAT (10 ENTRIES)

① LARRY LOUCKA - DH-6, ② JACK McGILLIVRAY - SE-5A,
③ WALT EGGERT - SE-5A

GOLDEN AGE COMBAT (9 ENTRIES)

① WALT EGGERT - CESSNA AIRMASTER ② GEO NUNEZ, AERONCA ③ DAVE REES - NICHOLAS BEASLEY

Kanowe to all winners plus nice 3" OLYMPIC TYPE MEDALS TO TOP 3 PLACES IN ALL EVENTS (PROVIDED BY NFFS)

I was disappointed in # OF ENTRIES!

NOTICE - NO MAKES IN HI-WING BUT 3 IN BIPLANE !!

Jim



You kids can't fly those here. This is a public recreational area!

ABOVE STOLEN & MODIFIED FROM SOMEWHERE

John C. Fredricksen has finally published his book, Flying Model Warplanes: an International Guide to Plans and Kits. It is 304 pages long, lists 8,656 plans, kits, and semi-kits from fifteen different countries, and represents 624 types of historical aircraft. It is available for $14.95 and $2.95 postage from: Air Age Publications, 25 Danbury St., Wilton, CT 06897 (203)-834-2900.

It should interest you to learn that about 90% of this book is concerned with free-flight, rubber scale models and should unite enthusiasts with many rare and obscure plans."

CARBON FIBER SOURCE

... a carbon fiber mat patch on the hub of one of my outdoor scale ships prevented me from having to carve a whole new prop.

Suppliers of carbon fiber products are increasing in number, but one of my favorite is Bradley Model Products, run by well-known A-2 glider designer and flyer, Jim Bradley. Send a buck to 1337 Pine Sap Court, Orlando, FL 32825 to get Jim's new product list which includes carbon fiber rods, sheet, mat, and tow.

LARRY KRUSE IN FLYING MODELS MAG.

CONGRATULATIONS - DICK OBARSKI

MIAMA MEMBER INDUCTED INTO NFFS HALL OF FAME, 1991.

CONGRATULATIONS - 1992 INDOOR TEAM USA FID TEAM BOUND FOR WROCLAW, POLAND (LAST TIME 1980)

RICK DOIG, CEZAR BANKS, AND LARRY LOUCKA

THERE'S MORE TO IT THAN THIS, GANG, BUT TOM ARNOLD, EDITOR OF THE FINE *SCALE STAFFER NEWSLETTER - 325 F AVE., CORONADO, CA 92118, STARTS THE BALL ROLLING IN THIS ITEM ON CARBON FIBER. THIS STUFF IS NOT JUST FOR GLIDERS + F.I. WE CAN ALL KEEP THINGS LIGHTER + STRONGER (12)

Carbon Fiber... high tech stuff for low tech airplanes

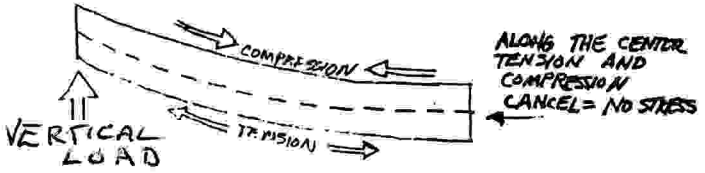
*FEE: 15$ PER YEAR HIGHLY RECOMMENDED

By T. Arnold

You guys who don't go to the FAC NATS back in Geneseo really miss out on some terrific flying, both on the field and in the hangar, so to speak. Last summer while perched on dormitory bunkbed, the editor was talking shop with Don Srull of the DC Maxecuters. Don related some uses he had developed with that exotic stuff — carbon fiber. I say "exotic" because it wasn't made from trees like most of the ingredients of our models. As a dedicated stick-and-tissue type, it seemed always one of those expensive things made for RC and not us. After examining the stuff, I can honestly say its made exclusively for us — we just have ignored it!!

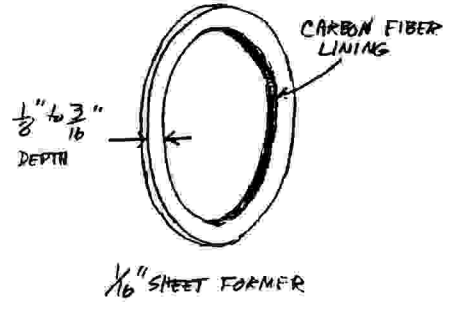
First off, carbon fiber is <u>not</u> Boron fiber. Boron fiber is a pretty bad actor that supposedly shatters and little whiskers get into your bloodstream that lodge in your brain, heart, family jewels or whatever. Carbon fiber is bounded to a matrix in a sheet that ties it together. It pulls off the matrix in nice even strips like celery string and acts like a springy piece of 1/32" music wire. You can break and bend it but to tell you the truth, razor blades and dope fumes have damaged more of my body than carbon fiber ever could. THe stuff is sold in 3"x24" sheets of varying thickness and I found some at a local RC hobby shop put out by Bob Violett Models.

Carbon fiber is tremendously strong in tension and, to a slightly lesser degree, compression. The difference between the two is insignificant for our purposes. That means anyplace you need compressive/tension strength, such as a spar, this stuff is super. To give an example, by gluing a 1/16" strip on the top and bottom edges of a 1/16 sheet spar you have an incredibly rigid member to vertical loads. Put a strip on the front and back and you have the same results for horizontal loads. The thing to remember is to separate the 2CF strips as far as possible for the most strength. For those unfamiliar, see the sketch below showing the loads placed on a wing spar.

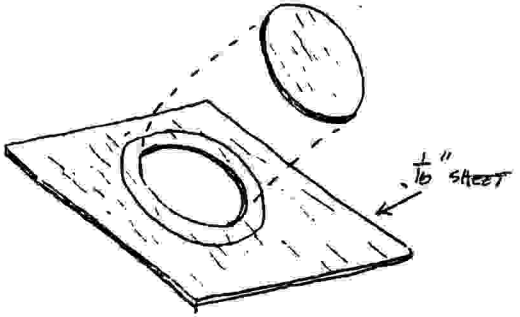


The top and bottom edges take the most stress, the middle none at all. In fact, you can eliminate the center of spar quite safely. (This would give you stringers for spars and what is often done in the past is to glue a vertical web between the two of a very light material to keep the stringers from buckling while under stress).
In times past, the challenge was to build the spar with the strength needed but without any excess weight. Of course, everybody would guess wrong somewhere along the line as balsa is only so strong. The famous 1/16" sheet spar was easy to make and was strong enough in the heavier grades but a few outdoor cartwheels and it would break too. Now enter some carbon fiber. Take a very light 1/16" sheet spar that normally would not take any abuse and CYA a 1/16 or 1/32 strip of CF to the top and bottom edge. You have a tremendously strong spar for a lot less weight. As long as you can keep the CF from buckling, you are in fat city.

So, that's spare. Now back to Don Srull and his experiments using CF to line the inner ring of a fuselage former. By doing this he could get a former depth of 1/8" to 3/16" and have a rigid ring that far exceeded any laminated or sheet ring. After making up a few samples, the editor got quite excited at how stiff they were and promptly plunged into a model utilizing them. While I made no weight measurements, I feel the weight saved is a function of the size of the former and the glue used to attach the CF (both CYA and Titebond work). In some cases, you'll save weight for the same strength and in other cases, you'll break even. What it does give you in all cases though is a tremendously open fuselage or nacelle to handle a flailing rubber motor.

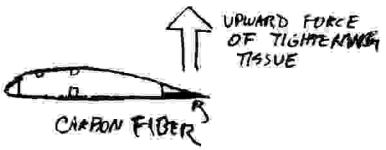


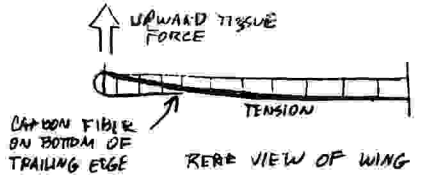
The construction of the formers is a little backwards and Don suggested working from the inside out. What this means is to draw your former outlines on a sheet of balsa. Cut the inside out first and pin it down on your workbench with a sheet of wax paper under the "holed" former. Now line the inner edge with a strip of CF and glue in place. I found CYA worked fine after I slipped the CF strip in place. It's really springy and will fight going in — sort of like thin music wire would. Using some small patches of wax paper to rub the CF against the balsa as the CYA glue set helped to keep the fingers from getting stuck. After the glue is set, cut out the outside outline and there you have it. You'll be amazed at how tough those formers are and if you are like the editor, you'll play around and finally destroy one as you try to see just how rigid it is! Needless to say, the half-former-and-shell method of fuselage construction can't be used with these new formers. The external "picture frame" jig as outlined in a previous newsletter would be most likely be utilized.



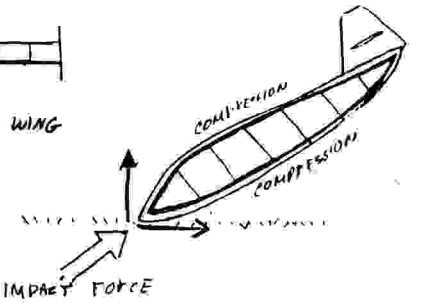
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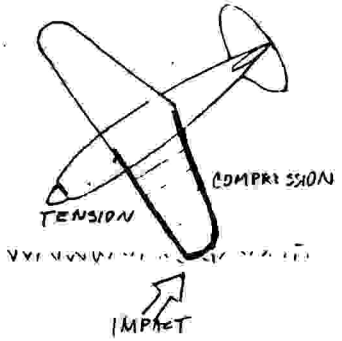
Other places to use the CF strips is along any balsa that regularly buckles under stress such as top and bottom or side keels — or all of them, a backing for wing leading edges, a backing for wing tips, and along a trailing edge. Al Lawton of Portland, CT. in discussions, felt a strip along the bottom of a trailing edge would counteract the doped tissue on a wing from warping progressively greater washout in a wingtip.





REAR VIEW OF WING

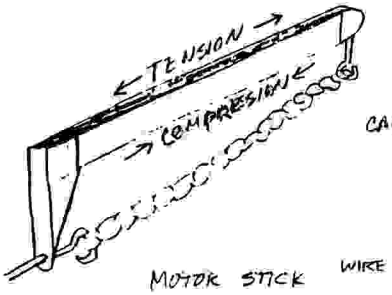


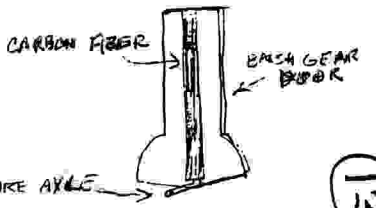


A strip of CF inside the outline of a vertical stab would protect it during a hit-the-nose-flop-over-on-the-back landing. Same thing would apply to horizontal stabs., Even just a strip along the central stabilizer spar may be enough.

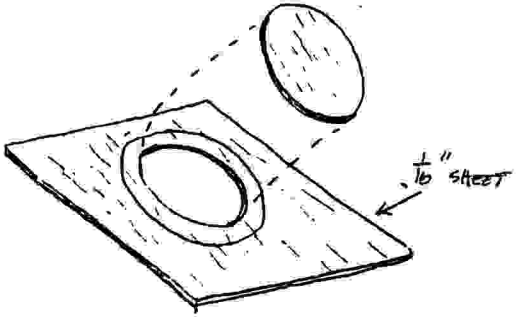
Motor sticks could be made lighter by allowing the CF to take the compressive/tension force of a fully wound motor.

Landing gear could dispense with music wire and rely on the landing gear door reinforced with a strip of CF. Some indoor models have done this already.



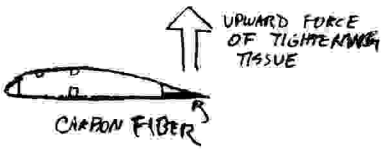


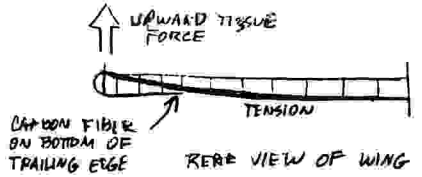
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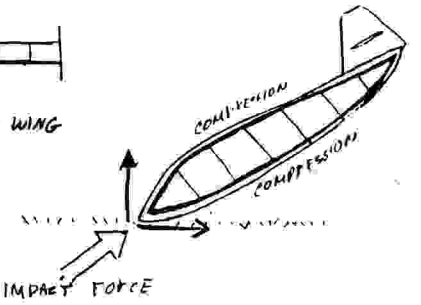
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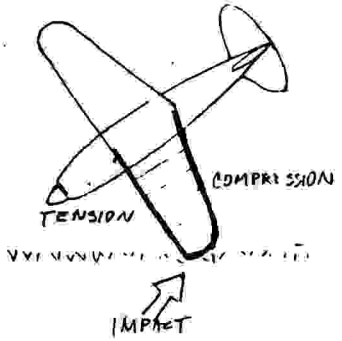
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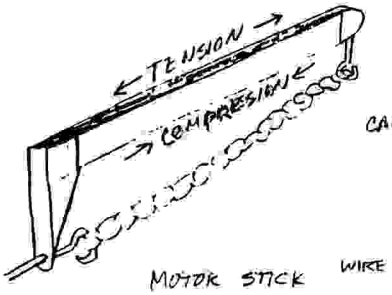


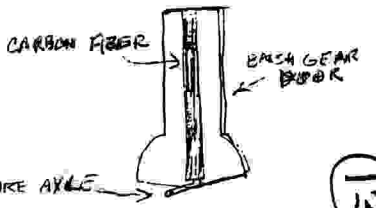


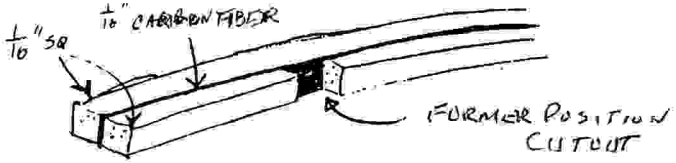
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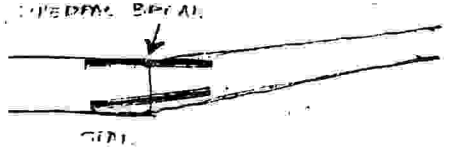




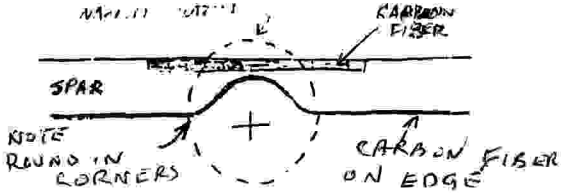


KEEL LAMINATIONS SANDWICH A CARBON FIBER STRIP. CUT OUTS FOR FORMERS ARE EASY TO MAKE AS THERE IS NO DANGER OF CUTTING THROUGH!

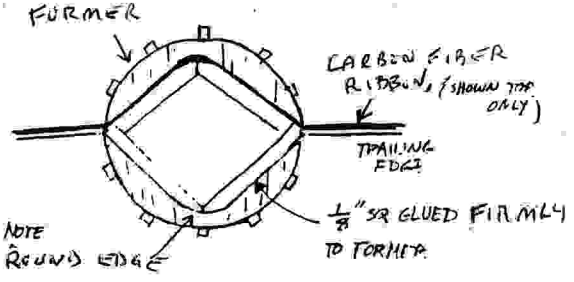
Dihedral joints can be faced with strips.

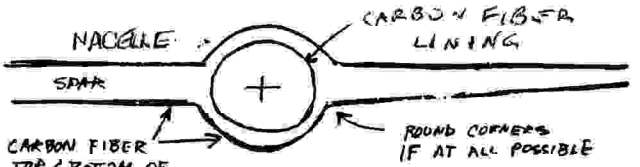


Spars can be cut out in a nacelle to allow greater room for a rubber motor.



While the ideal situation is a flat, straight run of CF, you can cheat a little and bend the CF as long as it's bonded to something to prevent it from buckling. Here's an example of a mid-wing aircraft and how the trailing edge could be mated to a former. Note, there are no sharp bends. Think of the stress as water flowing through a pipe. Sharp kinks cause it to rupture and squirt out.





NOTE: A SPAR WITH CF ON TOP AND BOTTOM CANNOT BE NOTCHED

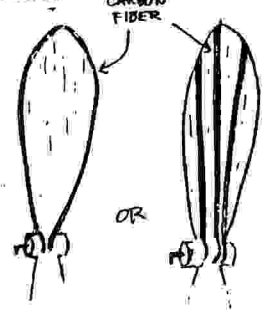
In cases where it's a tough joint, a patch will work fine although at a weight increase.

There are also some aircraft that visually can benefit from any strip of balsa reinforced with CF. Two which immediately come to mind are the Westland Lysander and Flesler Storch with their bird cage cockpits mated to the wing. A lot of the Early Bird aircraft and WWI types also have impossibly delicate structures that suffer rough and tumble outdoor flying poorly.

Propellers take a bodacious beating and strips laid up along the L.E. and T.E. would seem to delay if not prevent the loss of a blade on ground impact. In fact, a CF patch may be the ideal thing to back a blade with at its narrow throat near the hub. In cases of a twin where a weighty propeller is not wanted, a balsa prop with strips of CF laid spanwise may serve as both strength and a turbulator.

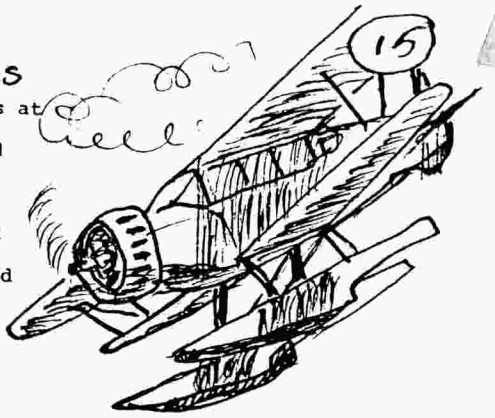
These are some ideas the editor will pursue in his upcoming models. My apologies for not have more hard data. For those who do get intrigued with CF and use it, do send in your results and we'll publish it to prevent the wheel from getting re-invented a hundred times over. (Actually, this is a plea so the editor doesn't re-invent the wheel! Being basically a sloth, he sucks up on every good idea he hears.)

BALSA PROPS



THE FOURTH ANNUAL FLORIDA KEYS R.O.W. MEET - AUGUST 3rd, 1991

By Millard Wells



Each year in August the M.I.A.M.I. INDOOR MODELERS meet outdoors at 6AM on the shallow Florida Bay to compete for the "Wells R.O.W. Trophy. This event is directed and hosted by Jeanne and Millard Wells of Islamorada, Florida. The trophy is an original Wells Watercolor.

This year's rules changed slightly. Fuselage models were judged for chrisma and R.O.W. ability on a scale of 10 Olympic style. his was added to the total flight time. Stick models were judged best time only after R.O.W..

Eight Flyers competed with twelve models.

(1) Dave 'VTO' Linstrum - Fat Cat Whitman - Proxy flown by Don and Bo Wright.
(2) Doc Martin - WACO SRE (All foam stick)
- Pistachio - Lacey M-10
(3) George Nunez, Sr. - 16" Canuk
(4) George Nunez, Jr. - Aeronca 'K' Comet
(5) Jorgen Korsgaard - WACO SRE
(6) Carl Hedley - Yard Bird on foam floats
(7) Saul Gottlieb - Embryo
(8) Millard Wells - Noonan Tern
- Sig Cabinaire
- Sig Howard DG-A
- Peck Cougar

The judges and timers were: Judy Nunez, Don and Bo Wright.

The Miami Indoor Club hopes this meet will inspire othere to sponsor R.O.W. Meets. Much information is needed about R.O.W. rubber. We find it very challenging.

Two things are vital. Some sort of chase boat. We use a 90 HP Bonefish Skiff piloted by Joe Miklas, a local attorney and Bonefisherman.

The second is the selection of the site. A shallow, wadable beach with enough area to launch into a shore breeze, if necessary.

The float design is critical. Experience has taught us that the float must be well forward of the nose with the step 33% ahead of the G.G. also rear of float must be designed to offer as little resistance as possible after rotation.

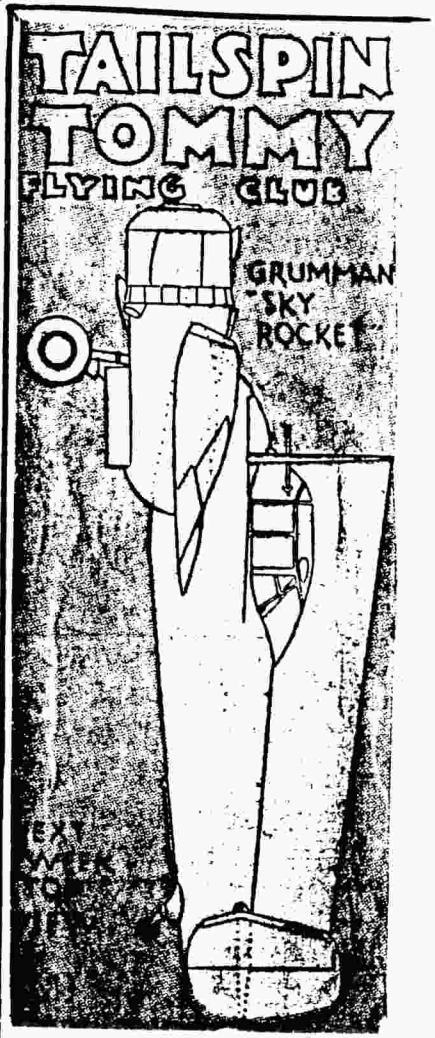
General Construction Tips. Cover Stabilizer on one side only. Keep model light - 10/20 grams for P-nut and Embryo types. Short wings are less tricky. Single coat of dope over tissue. Both sides. This is done on a frame pre-stretch style. Slightly more power than used for regular flying. I have found that if a model will not R.O.W. power is seldom the problem. If the model won't fly - it won't take off - simple as that. If you fly in salt water stainless steel metal parts should be used. Fish Leader wire comes in a variety of sizes. Plan on the model getting wet!

The WINNERS were:

(1) George Nunez, Jr. - Aeronca - 72.57 pts.
(2) Millard Wells - Noonan Tern - 46.5 pts.
(3) George Nunez, Sr. - Aeronca - 44.5 pts.
(4) Millard Wells - Cabinaire - 36.9 pts.
(5) Jorgen Korsgaard - WACO - 33.5 pts
(6) Millard Wells - Howard DG-A 32.8 pts.

All models above accomplished R.O.W. - a major accomplishment!! The weather was perfect with an off shore breeze approximately 5MPH.

R.O.W. Certificates were awarded to all who qualified and plans are underway for August 1992.



EDITOR: DR JOHN MARTIN JR
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THE HANGAR PILOT

WHAT'S ON IN FREE FLIGHT...??

October 19,20 Outdoor free flight meet at Palm Bay CD Lee Campbell
LOTS OF FLYING ACES STUFF.. Call Steve Bacom 1-904-788-7309
October 20 Lakehurst, NJ Indoor Meet OCT 12,13 - O.T. GATHERING OF TURKEYS { SAM17 PENSACO LA 904-968-9619

October 26,27 MIAMA INDOOR MEET #-TWO CD DOC MARTIN, SAT. 5 PM: FAC MASS LAUNCH WWI BIPLANES
BIG ANNUAL AWARDS MIAMA CLUB DINNER SAT. NIGHT AT EIGHT. TAMPA - YBOR CITY (COLOMBIA RESTAURANT)
7TH AVE BETWEEN 21 + 22 ST. "TAMPAS FINEST RESTAURANT".. FORTUNE MAG.
TAKE YBOR CITY EXIT FROM CROSSTOWN EXPRESSWAY. ORDER FROM MENU

NOVEMBER 23,24 SAM 46 OUTDOOR FREE FLIGHT MEET AT PALM BAY C.D. DON BRIMMER 813-525-6667
FAC EVENTS BOTH DAYS
Nov. 30, Dec. 1 CATAGORY I FLORIDA ANNUAL RECORD TRIALS THE "F.A.R.T. V" Dade County FUN FLY and Record Trials for all kinds of indoor models.
December 28,29,30 KING ORANGE OUTDOOR FF INTERNATIONALS. PALM BAY FLA. LOTS OF FAC STUFF

Uncertain: either 28,29 or 29,30 ANNUAL MIAMA KING ORANGE INDOOR INTERNATS AT
December DELTA AIRLINES HANGAR, TAMPA AIRPORT. More Later THIS IS MIAMA MEET 3
FAC MASS LAUNCH - 50TH ANNIVERSARY - PEARL HARBOR

OUTDOOR WEEK-END FLYING IN DADE COUNTY...CONTACT GEORGE NUNEZ 666-9913