MODEL BUILDER

OCTOBER 1973

ONE DOLLAR

volume 3, number 23

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CARL GOLDBERG

NEW! RETRACT POWER SYSTEM FOR 4-CHANNEL FLYERS!

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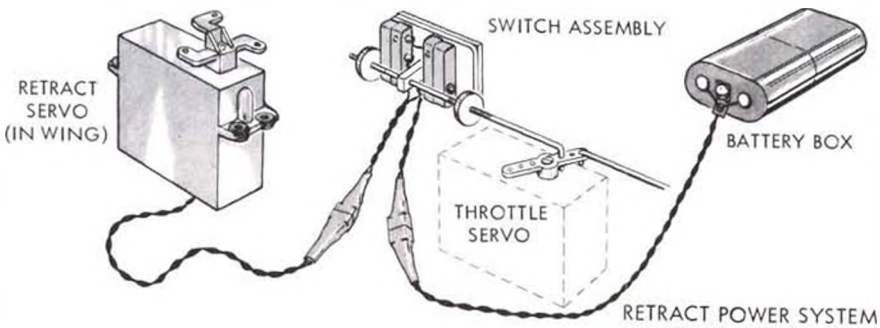

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*** A statement in AMA's Monthly Mailing for August, 1973, is slightly misleading. It implies that a subscription to AAM, as part of 1974 dues for Open members, is only $4.00 extra.** *THIS IS NOT TRUE.* **The subscription is actually $6.00 extra...** *EXACTLY THE SAME AS OUR SPECIAL CHRISTMAS OFFER TO AMA MEMBERS!*

In truth, the basic dues for Open membership is $10.00, but then you are *required* **to make a** *mandatory choice* **of paying $2.00 extra for AMA News, or paying $6.00 extra for AAM. In other words, you are** *obligated* **to pay at least $12.00 . . the other $4.00 is the** *difference* **to get the magazine,** *not the special subscription rate implied.*

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AND . . . "YOU AIN'T HEARD NUTHIN' YET" . . . as a SPECIAL CHRISTMAS BONUS, new and renewing members may purchase *additional subscriptions* (as many as you want) at the same special price (and until Jan. 14, 1974) for friends on your Christmas list. How's *that* for a good deal!? Use the extra address forms provided, and *please print* . . . some of you write worse than doctors!!

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The MODEL BUILDER

OCTOBER

1973

volume 3, number 23

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FEATURES

CONSTRUCTION

Cover: Jack McCracken, Norwalk, California, was winner of Open F/F Scale Gas at the 1973 AMA Nationals with this 1 inch scale Sopwith Triplane. Powered with an .035 D. C. Dart, using Quickstart diesel fuel, and equipped with pendulum aileron control, the ship is an excellent flyer. The 26-1/2 inch span, 10 ounce model was built from plans drawn from Aeromodeller 1/72 three-views, and detailed in factory finish per original photographs and additional research. Winning flights were made early in the morning . . . before the daily wind storms arrived. Photo on 35mm Kodachrome by Fernando Ramos.

The General Manager receives her Cox "Official Junior Pilot" certificate from flight instructor Dale Kirn. Cox Mfg. Co. gave free C/L flying lessons to any and all during the 1973 Nationals.

from Bill Northrop's workbench . . .

GOING WITH THE TIDE

Well . . . have you recovered from the shock of not getting 15 cents change from your dollar for this month's issue?

It really shouldn't have been *too* much of a surprise. About the only thing that hasn't gone up lately is a 1973 Nationals free-flighter's estimation of Wittman Field's F/F contest site . . . and its downwind environs.

Actually, the fault is mostly with you, our readers. You keep telling us what a great magazine we're putting out . . . and it just went to our heads.

You'll notice we did feel a little guilty about it . . . and threw in 8 more pages. On a sheet for sheet basis, we still come out just a little higher in retail cost (seven hundredths of a cent per page) but there's also extra labor, more material costs, and of course, added postage to consider also.

Anyhow, the timing seemed appropriate. We needed more space in this issue to give you lots of Nats pictures, and besides, we had a chance to jump in between Phases 3 1/2 and 4 7/8 without getting stomped on by the I.R.S.

AIRBORNE PROBLEMS

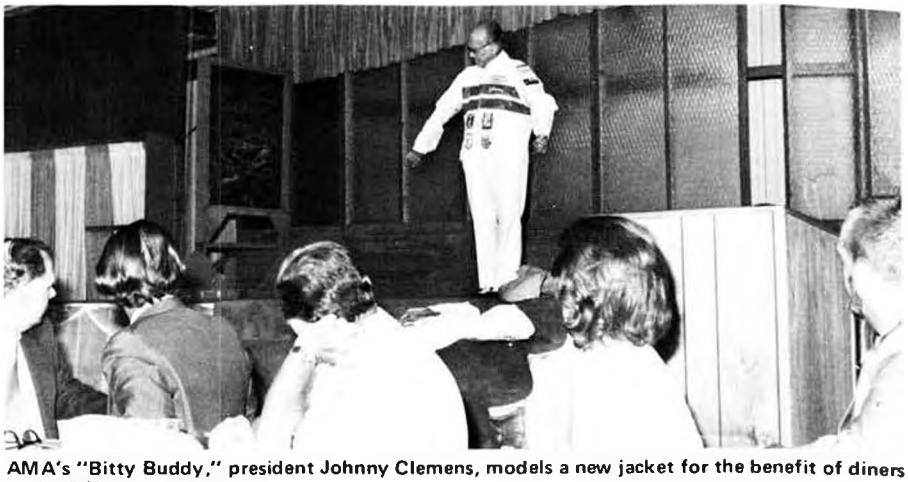
As you may recall, we announced several months ago that we'd be distributing the new Australian model magazine AIRBORNE. In fact, we've received many dealer and subscriber orders for this publication.

Up to this point we are sitting on all orders until we can be sure of consistent delivery from overseas. To date, it hasn't been so good. Not only has it been taking too long, but a large percentage of the magazines have been arriving in unsaleable condition. As soon as these problems are cured, we'll be sending sample copies to your MODEL

A family affair. As their little daughter was upset about having to stay on the sidelines while Mom and Dad were flying, Duane Brown, line official, very effectively solved the problem.

First female Nationals R/C Judge! Sally Brown, wife of Class C Expert flier Dave Brown, judged Class A and B fliers on Sunday. Experienced, confident, she did a darn good job.

Our traditional backside view of the winning Class C Expert fliers as they line up for the photographers. For a front view, turn to page 13.



AMA's "Bitty Buddy," president Johnny Clemens, models a new jacket for the benefit of diners at the R/C Banquet.

You never can tell who's going to show up in Central Park, New York City, especially as far back as 1937. Our "Mystery Modeler of the Month" did. Can you name him?

BUILDER dealer. Check with him from time to time.

SPORT SCALE CONTINUED

One of the bugaboos of being a magazine editor is finding out that some secondhand information you're using is not correct. In the August "Workbench" column we commented on Maxey Hester's "win" in Sport Scale at the Southwestern R/C Championships. Truth is, Maxey, who's with Sig Mfg. Co., not only *didn't* win, he wasn't even *there*, and as a matter of fact, has *completely retired from R/C competition!* Charley Reed, Raytown, Missouri, called this to our attention, and to fully set the record straight . . . along with adding some comments on Sport Scale, we quote Charley's letter:

"You goofed this time, Bill . . . Maxey wasn't even at this contest. I

Continued on page 66

A duplicate prototype of our "Big John" design, built by Graham Lomax (left), is a regular performer on the AMA Demonstration Team. Pioneer modeler Leo Weiss (right) also digs biplanes!

Henry J. Nicholls, internationally known modeling authority from England, spoke at the R/C Banquet. He's always a delight.

OVER THE COUNTER

● Usually, when someone tells you to "Go fly a kite," it's not exactly an invitation to do the Ben Franklin bit (unless, of course, they're figuring you won't be as lucky as Ben when the lightning hits). On the other hand, the suggestion may be coming from Craig Stratton, who is currently marketing a line of airplane/kites. His company, Stratton Air Engineering, 12821 Martha Ann Drive, Los Alamitos, California 90720, produces four colorful, four foot span, scale-like kites in kit form, which, when built up in a matter of a few hours each, look very much like (1) the Fokker Tri-Plane, (2) the Sopwith Camel, (3) a multi-colored sport biplane called the Super Star, or (4) a Navy Grumman F3F-2.

Squadron Kites by Stratton Air Engineering.

The airplane/kites consist of a built-up profile fuselage to which single, leading edge wing spars are attached, using molded/wing-foot pieces. Single spar tail surfaces complete the structure. To all of this, you glue pre-colored "kitespan" covering material to produce a 4 foot span kite/plane which weighs about 4 ounces.

"Flying" on the end of 200 or 300 feet of fine, invisible nylon monofilament line, the kites look very realistic, and can be flown in formation, stunted, made to simulate combat, etc. Free flighters have also found that they make excellent thermal detectors. The kites will fly right up over the line in good lift. Adult modelers will find them to be very useful as a means of keeping the kids entertained while at the same time helping to "bridge the gap" between kites and model airplanes.

Kits sell for $6.50 (except for the $6.95 Red Baron's Tri-Plane), and if not available locally, may be ordered direct. Add $1.00 for postage and shipping charges.

* * *

Cal Aero-Model, 7142 Bluesails Dr., Huntington Beach, California 92647, has added two more .020 Replica Old Timer kits to its line, making four in all, each selling for $7.95.

The .020 Playboy Sr. spans 36 inches, and has already had an important contest win . . . first in .020 Replica at the 1973 SAM Champs. The 33 inch span Strato Streak also took 2nd at the 1973 U.S. Free Flight Championships.

The two new kits . . . like the other Cal Aero-Model .020 Replicas, So-Long and Brooklyn Dodger . . . include sharp die-cutting, saw-cut plywood parts, strip wood, wire, covering tissue, full size plans, flying and adjusting instructions, wheels, etc. It also seems worth mentioning that Cal Aero's proprietor, Bob Oslan, figures that customers are getting the labor that goes into the kits for about 7 cents an hour.

Like anybody will tell ya that's been there, you gotta be nuts to ruin the

Cal Aero-Models' .020 Replica Strato Streak, originally designed by Lou Garami.

Cal Aero-Models' .020 Replica Playboy Senior, a Cleveland Models design.

Victor Model Products' "Victor," an AMYA Class "M" design. Also called 50/800.

hobby for yourself by going into the business . . .

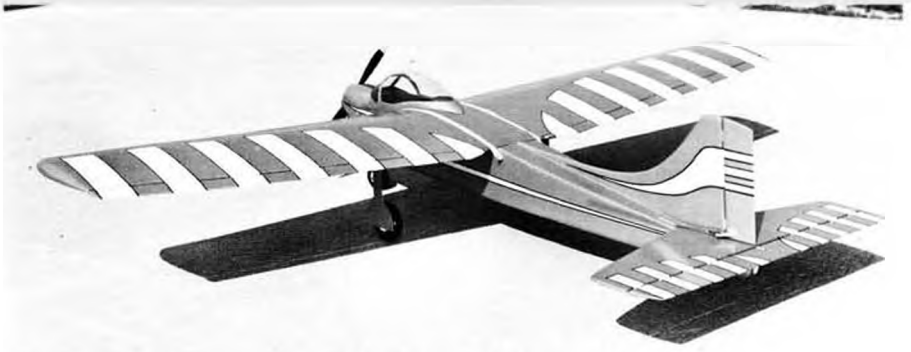
* * *

Sig Mfg. Co., Montezuma, Iowa has now added a new aileron ship to it's R/C trainer line, called the "Komander." (Hmmmm . . . first the Kadet and now the Komander . . . wonder if the designer of these two ships will change his name to Klaud MkKullough?)

Somewhat reminiscent of Jack Stafford's Weekender, the Komander is a shoulder wing model with the main gear mounted in the wing. With the canopy placed well forward and wheel/strut covers on the main landing gear legs, it's quite a snappy looking design. Span is 62 inches, weight 5 1/2 pounds, and suggested power is .35 to .50 engines.

The $29.95 kit features foam wing cores, bubble canopy with molded framing, molded plastic cowling, printed fuselage sides and bottom, sheet balsa wing covering, sheet balsa tail surfaces, pre-bent torsion bar main gear, formed 5/32 inch nose gear, step-by-step instructions with isometric drawings, and complete hardware package which includes; molded nylon control hinges, nylon control horns, nylon nose gear bearing, nylon nose gear steering arm, tuf-steel R/C links, aluminum motor mounts, and nylon screws for bolt-on wing attachment.

The brochure also says that it "Builds Kwick" . . . honest!



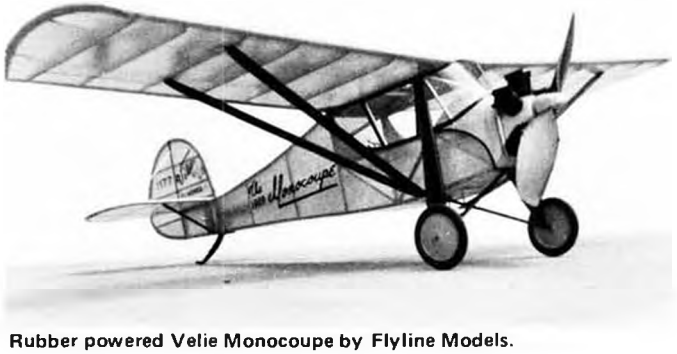
Sig's new aileron trainer "Komander." Lots of prefabrication in this kit.

Tachometer by Royal Products has 3 ranges, will read to 30,000 rpm.

Two of the twelve new Royal Hiness engines. Twin 40's and 60's are also coming! A .20 R/C and .09 Standard (btm) are shown.

Judging by Al Vela's experience in testing the new Rossi .15 (see his F/FAI column in this issue), he could use one new product announced by Royal Products Corp. The Royal Photocell Tachometer has 3 rpm range settings (0 to 6,000, to 15,000, and to 30,000).

Continued on page 66



Rubber powered Velie Monocoupe by Flyline Models.

Bellanca Skyrocket for .020 with radio, or free flight. Also could be rubber powered. Kit by Flyline Models.

Rhett Miller, Jr., 1973 AMA Nationals Class C Expert Pattern Champ! The Class C Best Senior trophy was sorta anti-climactic.

Second and Third places in Class C Expert were won by a couple of "Old Pros," Don Coleman (left) and 1971-72 winner Ron Chidgey.

'73 RADIO CONTROL NATS

A summary of R/C Pattern and Scale at the 1973 Nats by Bill Northrop, followed by a short Radio Control Report by R/C Editor Frank Schwartz. Frank will have more Nats details next month.

It was just a little spooky.

The stance was the same throughout every flight . . . feet slightly apart, toes pointed straight ahead toward the landing circle, body straight with the weight equally distributed on both legs, similar to the military "At Ease."

The transmitter was held the same . . . single stick type, cradled in the left arm, about waist level, antenna pointing toward the circle.

The maneuvers were called out in the same manner . . . clear, precise, outwardly calm, complete with that familiar southern accent.

And most important of all, the flying was the same . . . the plane went where it was supposed to, when it was supposed to . . . large, smooth maneuvers, no wasted turn-around motions, the whole flight being performed as though it were one long maneuver that was being judged at all times . . .

We were watching Rhett Miller Jr., age 15, win Class C Expert at the 1973 Nationals . . . but we were also seeing Jim Kirkland's ghost in action . . . it *was* just a little spooky.

But let's not take anything away from Rhett. True, he was the late Jim Kirkland's protege, and Jim taught him all he knew about pattern competition flying. However, there are many of us with whom Jim could have worked 'till the end of time, and we'd still only be run-of-the-mill, weekend duffers. Rhett

Bob Karlsson doesn't look at all pleased to win 3rd in Scale and a place on the 1974 FAI team!

Rhett Miller appears relaxed as he shoots a touch-and-go for the judges during the finals. Many of his mannerisms reflected the training he had received from the late Jim Kirkland.

Judges Three (l to r), Don Lowe, Sally Brown, and MB's editor, Chief Judge Bill Northrop.

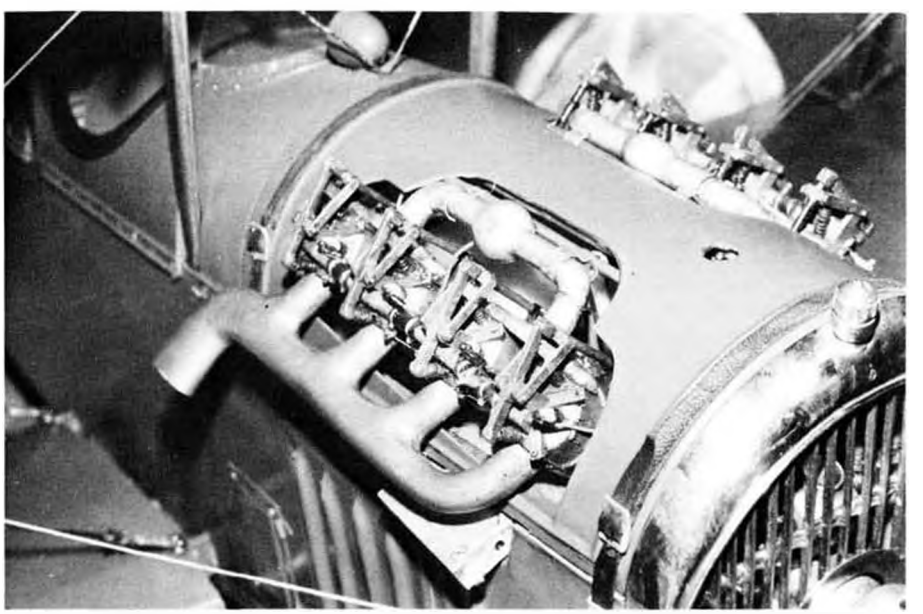
Class C Expert - 1, 2, 3, 4, and 5: Rhett Miller, Don Coleman, Ron Chidgey, Don Lowe, and Bill Salkowski. R/C CD Bob Scott in back.

Class C Expert - 6, 7, 9, 10, and 8: Mike Mueller, Jim Whitley, Jim Martin, Dave Brown, and Jim Oddino.

Class B winner and Best Class B Junior, 12 year old Steve Brooke, with R/C Pattern official Hugh Waechter.

Class C Expert - 11, 13, 12, 15, and 14: Steve Buck, Bob Smith, Phil Kraft, Alan Dupler, and Ralph Brooke.

Class C Pattern Best Junior trophy winner Brian Richmond.



The Curtiss OX-5 engine in Charles Nelson's 6th place scale Jenny looked real enough to run! Dig that radiator and leather straps with buckles, too.

already had what it takes to be a champion . . . Jim happened to recognize that, filled in the gaps, and honed it all to a fine edge.

This seems to be the year of the "Youth Movement" in R/C. Mike Mueller, a Senior from Chicago, has been a contestant in the R/C Nationals for a number of years. This time, he sneaked into the finals with a 19th place in qualifying and then went on to join a 3-way tie for fourth place with Don Lowe and Bill Salkowski, ending up in 6th on the basis of having the lowest 3rd flight of the three. Mark Radcliff was, if Mark will excuse us, somewhat of a dark horse to most of those who are familiar with the names of leading pattern fliers. The young college student was twelfth qualifier out of the 116 Class C entrants, and finished 18th in the finals. Steve Buck, a dental pre-med student from Arizona, qualified 11th and finished 10th.

There's another young man who will be entering the Class C/D pattern battle next year, if for no other reason than the fact that he has flown himself completely out of Class A and B! Steve Brooke (that's the Brooke with a lot of hair) is only 12 years old and flies with the same calm confidence exhibited by Rhett Miller. Last year, at 11, he easily topped all Class A contestants, and of course, also took home the Best Class A Junior award. This year he repeated the performance (and both trophies) in Class B. In case you don't know, Steve's father Ralph, a Seattle dentist, was

Sandra Smith, one of three gal R/C contestants, gives judge Tom Ewing a close look at her taxi demonstration. Pop Weldon watches.

Lynda Day, Canada's MAAC Sec/Treas, flies, while MAAC President, Warren Hitchcox does the calling.

Bill Bertrand's 9th place scale Aeronca LB on a takeoff run. A very realistic flier.

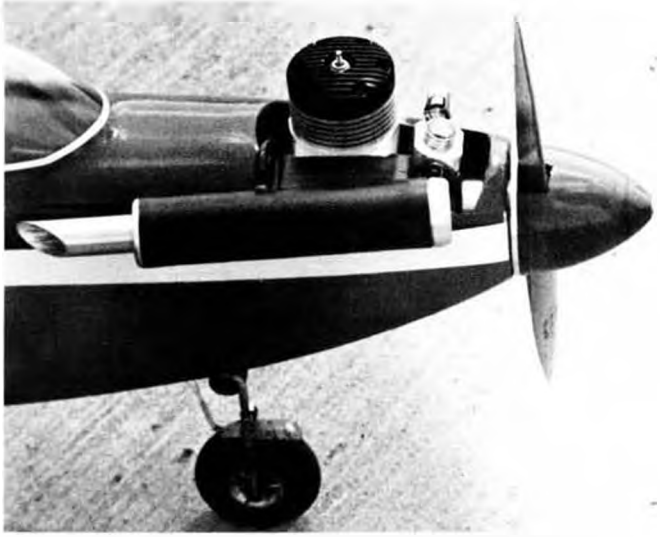
Ralph Brooke checks the paint job on his Gladiator as it comes in for a landing.

twice World Champion just a few years ago, and still retains the knack, being top qualifyer and finishing 14th at this year's Nats.

And while we're talking about young fliers, check the report on the R/C Soaring Nationals in this issue. Jeff Mrlik, age 12 (twelve, got it?) topped 132 entires to become the U.S. R/C Soaring Champion for 1973. Play *that* on your transistorized nickelodeon!

All of our 1973 FAI team members were competing this year; Norm Page, Jim Martin, and Jim Whitley, as well as team manager Ron Chidgey. Though none of the team placed high, it was not too surprising . . . getting "psyched up" for one win in a five week period is enough, and surely, the World Championships in Gorizia, Italy, is a hell of a lot more important than the Nationals.

Of all the team members, Norm Page had the most demoralizing experience in Oshkosh. Apparently Norm and the Transistor God had a falling out. After putting up with a series of "funnies" during qualifying, in which he still placed third under Ralph Brooke and Dave Brown, Norm watched helplessly as his airplane bit the sod just



The powerful Ross .61 made its Nationals debut at Oshkosh. This one is nestled in the nose of Jim Whitley's Daddy Rabbit.

Norm Page forces a smile as he checks controls on back-up ship loaned him by Dave Brown. Norm had radio crash on first flight in finals.

Best Senior in Class B was Mike Shafer, who also won 3rd overall. Mike is from Parkersburg, W. Virginia.

Best Senior in Class A was Eric Podzielinski, Ft. Wayne, Indiana. He also won 5th overall in the event.

Dick Straw, Nats R/C Official for many years, kept a close watch on frequency clothespins!

Wanna bet it's a Cuban Eight? Ralph Brooke points to crossover spot as judges Jack Fabbri and Gary Chaddock (with pen) watch carefully. Steve Brooke looks bored with the whole thing.

after takeoff on his first flight of the finals. Though he finished out the day with Dave Brown's back-up Phoenix, Norm left for home and workbench the next morning, with a lot of building and testing ahead of him for the next few weeks.

Let's play with some statistics on the top 20 in Class C Expert. In radios, Pro-Line dominated with 15, followed by S&O (2), Kraft (2), and Blue Max (1). The S&O (Salkowski & Oddino) users, oddly enough, were Salkowski (5th) and Oddino (8th). Pro-Line was in all but 3 of the top 11, the other hold-out being Dave Brown with World Engines' Blue Max radio. Proponents of single-stick will be pleased to note that the top 3 (Miller, Coleman, and Chidgey), in addition to two others, were using this mode.

Super Tigre and Ross chopped sharply into Webra's domination of last year. The Blue Head ST's pulled 8 of the

Norm Evans checks throttle action (engine's running) before flying his 11th place scale DH-1. Ship flew well in spite of stiff breezes.

Cockpit detail of Bob Wischer's 7th place scale Emeraude. This was the ship he entered in the 1972 Scale R/C World Championships.

Another photo of the Aeronca LB entered in scale by Bill Bertrand, who also judged C Pattern qualifying. Ship is grey with yellow trim.

Jim Vanderwalker's big Taylorcraft looks very realistic as it makes a low, slow pass for the judges. Notice aileron correcting for crosswind.

"OK, who swiped my extension cord?" Bob Boucher and his 19th place, electric motor powered scale Fournier R-4. It's very quiet!

"Come on out, Bud, we see ya hiding behind that 'Jug'!" Nosen is really hooking up the bomb on his 5th place scale P-47D. Bob Talchik holds on. Bud was last years winner with Skyraider.

top 20 airplanes, including the first 4! Lou Ross's powerful "Black Demon" 61 made a very impressive debut, being used by Jim Whitley (7th), Ralph Brooke (14th), Ed Keck (16th), John Agee (19th) and Norm Page (20th). Vecos were used by 4 of the top 20, while 2 Webras and Jim Martin's HP filled out the balance.

Nationals R/C Pattern competition took on a very pleasant new look this year as 3 female contestants and one female judge joined the activity.

The judge was Sally Brown, wife of Dave Brown who placed 10th in Class C Expert. Sally was highly recommended by Don Lowe, who annually volun-

Some of Sunday's judges (l to r): Jack Fabbri, Dave Lane, Gary Chaddock, Don Butman, Sally Brown, Don Lowe, Bob Upton. Kneeling (l to r): Carl Mueller, Bill Northrop, Mike Mueller.

"I use these for judging the Double Immelman." Jim Edwards flew to Oshkosh in his Pitts. Gary Chaddock and Ron Chidgey ponder.

Two Rhetts don't make a wrong! Rhett Jr. wins the Nats, and Rhett Sr. was appointed Chairman of new Pattern fliers association.

Saturday night's R/C Banquet was also a victory banquet for the Millers, sitting with Jim Whitley, Ron Chidgey, and the Gary Martins.

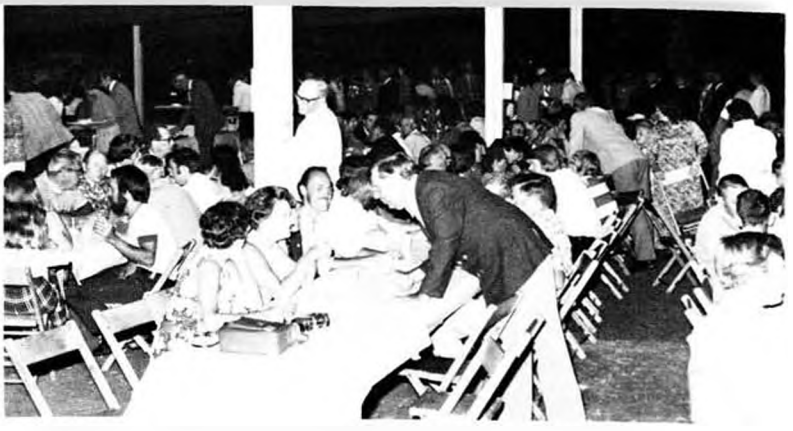
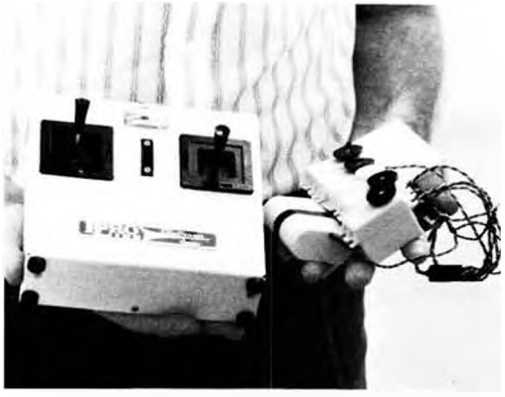


Table hoppers Bob Stockwell and Brooklyn's Flying Ace, Harold Goldklank making their rounds while the steaks were charcoaling.



The new Pro-Line sport model radio which is described in Frank Schwartz's section.

The chow hounds (l to r) are Jan Sakert, Duke Wilford, and Johnny Alderson, all under the supervision of Nats Exec. Committee member Jan Sakert. Bob Reuther adds his 2 cents .

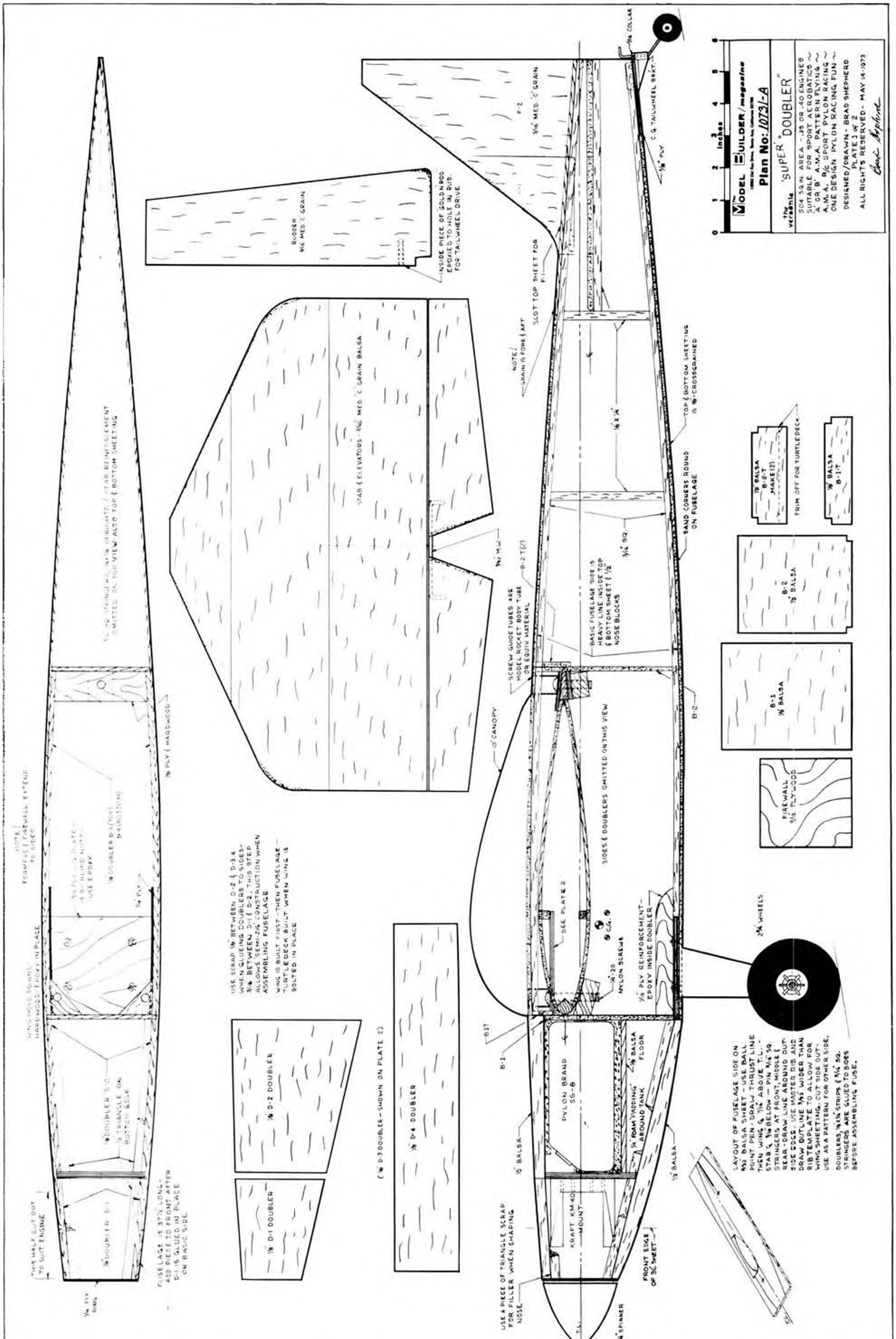
teers to judge Class A and B Pattern on the final Sunday. Her experience in critiquing Don and Dave during many of their practice sessions was more than enough to prepare her for the job.

Contestants Lynda Day, Ramona Shultz, and Sandra Smith all flew during the Class A and B competition on Sunday. Lynda, wife of Colin Day who also flew on Sunday, is Secretary/Treasurer of the MAAC, Model Airplane Association of Canada (corresponds to our AMA), and was seconded by Warren Hitchcox, current MAAC President. Ramona's husband Don also flew on Sunday, placing 4th in Class A. Sandra Smith's parents, Weldon and Lee Ann are perennial Nats R/C officials, and in fact, this was the first day of Nats R/C week that Sandra herself was not busy shagging score sheets back and forth to her mother, who is Chief Tabulator.

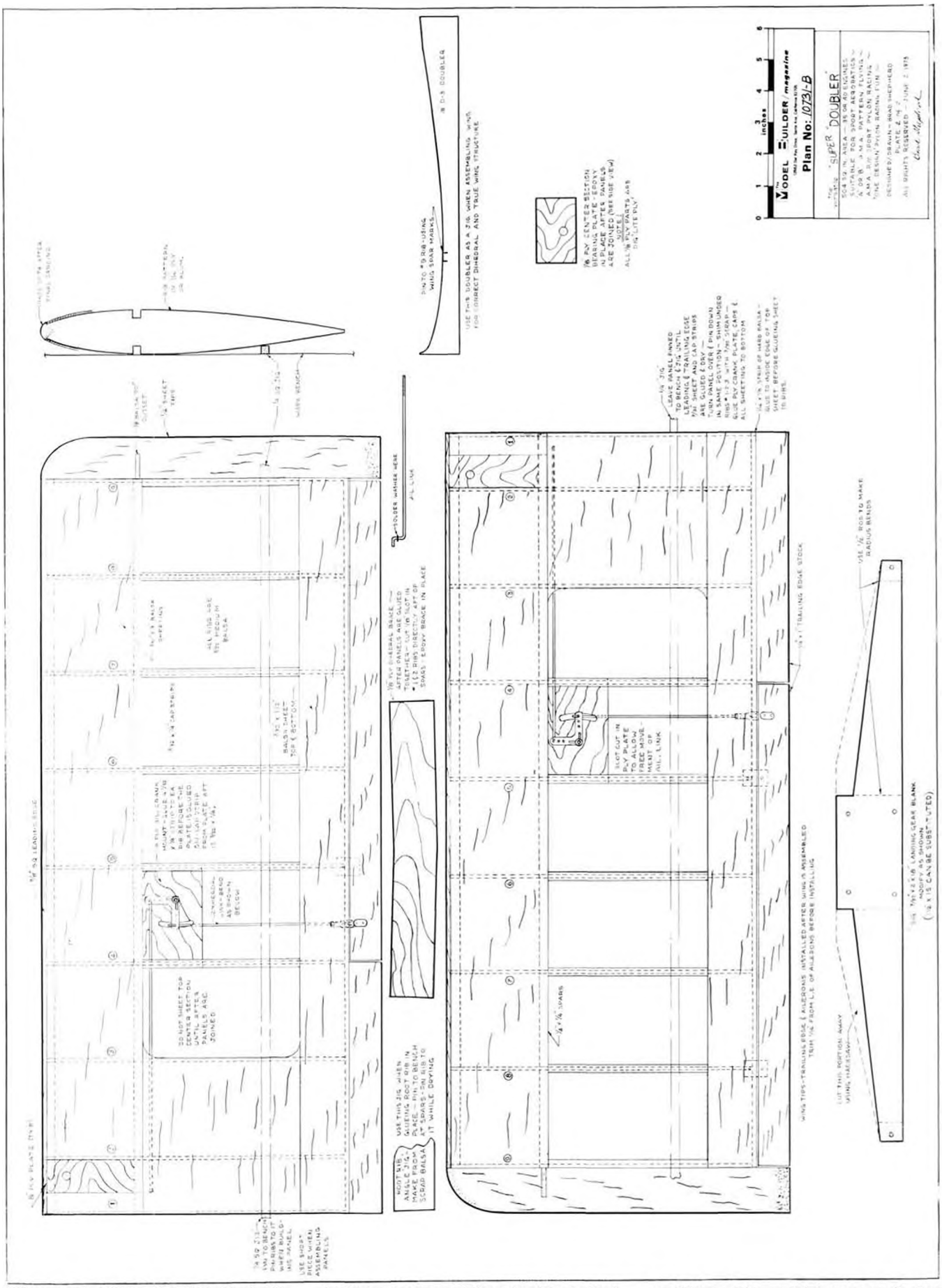
Scale was dominated by low wing mono planes (17 out of 22), and many of the ships were reruns from last year. John Roth used his 1972 World Championships Volksplane to take first. Ralph Jackson dusted off his Windecker Eagle and promoted it from 5th last year to second this year. Bob Karlsson, old flying buddy from Wilmington, Delaware returned with a *different* F4U Corsair and moved up from last year's 11th place to third . . . and there's your

Continued on page 68

. . . and once more, for the West Coast, the big R/C Nats winners (l to r): Don Coleman, second; Rhett Miller, first; and Ron Chidgey, third. The South has rizz again!



FULL SIZE PLANS AVAILABLE – SEE PAGE 72



FULL SIZE PLANS AVAILABLE — SEE PAGE 72

It is somewhat fitting that Brad Shepherd's "Super Doubler" should appear in this issue of MODEL BUILDER, as it was just one year ago that his "Stephens Akro" was published, in the Nats issue. Since we needed the space for Nats coverage, and the only pictures Brad could give us were unprintable Kodachrome slides, we decided to give it to you as a partial construction article. Hopefully we'll have some black and white shots of this sharp looking, versatile aircraft to publish next month. As is typical of Brad's drawings, the plans are self-explanatory. Have fun . . . and let us know how yours flies. First one we hear from gets a year tacked on his subscription (or a new one).

West Coasters made a clean sweep of Formula I (l to r and 1st to 5th): Bob Smith, Jeff Bertken, Kent Nogy, Cliff Weirick, and Dan McCan.

PYLON

By TOM CHRISTOPHER

PHOTOS BY TOM CHRISTOPHER

● The 1973 Nationals is now history, and what an event for the promotion of our sport! This year the Nats were held at Oshkosh, Wisconsin, following the Experimental Aircraft Association's annual meet. This was the first year in many that the AMA had to sponsor the Nats. Prior to this, the Navy had sponsored the Nats with great success. We attended almost all the combined events and categories and must say that the R/C Pylon (FAI) and Formula I drew the most spectators and provided the *real* excitement of the entire Nats week.

Bob Smith gets "fueled up" for his next race. . . . and all this time we thought it was his flying skill that got him all of those wins!

Registration and processing began early Monday, August 6 with R/C pylon qualifications starting around 2:00 PM the same day. Needless to say, the first day was hectic. Not only was there confusion as to orientation and location, but here comes the wind and rain! Speaking of rain, it wasn't until the following Thursday that the weather gave us a break and fair but windy conditions prevailed for the finals.

R/C pylon (FAI) qualifications were held on Monday with only one round being run due to the weather. Almost immediately, we could see that the meet had one competitor in FAI that was really "Top Of The Class." The Telford-Violett team turned a 1:34 in the wind and rain and everyone started scratching their heads as to what had

Dan McCan and father Dwight prepare Dan's Miss BS FAI. Looked good in qualifying, but had problems in Finals.

Bob Violett and his super clean, super loud Bobcat. Exhaust (tuned stack, pipe, megaphone?) crosses away from official's side. A joke!

Mr. Smiles, D. C. May gets it all together with his K&B Stegall Minnow. D. C. and Harold Coleson are a couple of fast Georgians!

Rick Kuiper and his GMA PH powered Miss DARA were eighth in qualifying but crashed at takeoff in first Finals heat. Too bad . . .

Jerry and Jean Christiansen . . starter and chief scorer at the Nats, are two of Glen Spickler's special pylon crew, from Bakersfield, Ca.

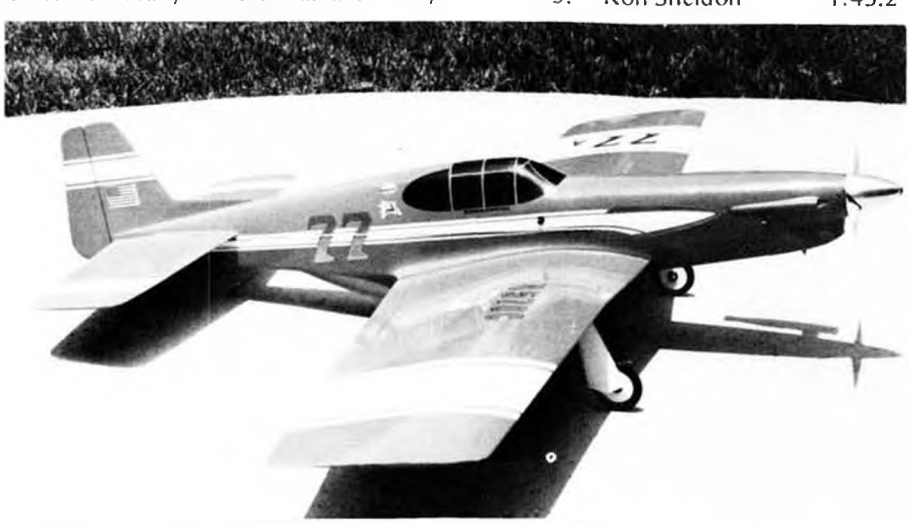
Terry Prather and his Supertigre powered "Tiger Tamer." He finished 12th in Formula I and FAI!

happened. Following heats also provided some pretty good times in FAI, but none quite as good as Bob Violett's Bobcat.

Tuesday's schedule called for Formula I qualifications, but since only one heat of FAI had been run, it was decided to run one more heat of FAI and two qualification heats of Formula I. So if you came two thousand or twenty miles to the Nats, you had better be ready! There was absolutely no test flying and only two cracks at qualifying. This was unfortunate, but the officials did not have a choice due to the time factor, schedule and that weather!

The FAI Finalists (Qualifiers) and Qualification times:

1.	Bob Violett	1:34
2.	Jeff Bertken	1:38.8
3.	Bob Reuther	1:41
4.	James Booker	1:41.7
5.	Ron Sheldon	1:43.2
6.	Gus Geissinger	1:45
7.	Cliff Telford	1:45.8
8.	Kent Nogy	1:46.9
9.	Dan McCan	1:47.3
10.	Doug Spreng	1:48.8
11.	Bob Root	1:49.5
12.	Pete Reed	1:49.5
13.	Tom Pownall	1:50
14.	Terry Prather	1:50.8
15.	Tom Baker	1:51.2
16.	Tom Christopher	1:51.4
17.	Mike Helsel	1:51.4



Tom Christopher's sleek FAI Pylon P-51A is an Ed Foster design and is powered with an HP. Tom placed 14th in FAI and 10th in Formula I (with Ole Tiger).

Ron Sheldon's "Avanti" was designed by Ed Foster. Piped HP powered ship placed 2nd.

The top 3, Bob Smith, Jeff Bertken, and Kent Nogy, with their K&B Schnuerle powered Formula I racers.

Bob Violett and Cliff Telford (r) prepare for 1st place flyoff. Ship is Violett designed Bobcat with K&B Schnuerle power.

Mike Helsel's FAI P-51 is not too hard to distinguish.

Ron Sheldon's "Avanti," designed by Ed Foster. Tied for first in FAI, lost flyoff with Violett. HP turned 20,000 with 8.75x6 prop!

18. Irwin Funderburk 1:59.8
19. Balko/Browning 2:03
20. Bob Noll 2:04.6

Bob Violett set the fast qualification time of 1:34 with a beautifully built and carefully prepared Bobcat that is powered this year by a K&B Schnuerle port engine. Second fastest time went to Jeff Bertken with a fixed geared Miss BS that looked a little worse for wear. None the less, Jeff used a tuned piped K&B that really moved well. Bob Reuther, 3rd, and Ron Sheldon, 5th, both had HP-40 powered aircraft.

RC Pylon (FAI) Results 1973 AMA Nats:

1. Telford/Violett Team (Bob Violett)
2. Ron Sheldon
3. James Booker
4. Tom Pownall
5. Bob Root
6. Kent Nogy
7. Tom Baker

Yep, that's one of the East's best pylon fliers, Bob Noll, behind the mustache and goggles.

Line up of Formula I ships being judged to determine takeoff position. Workmanship and finish on most R/C pylon ships far exceeds the average model. Cleanliness adds mph!

Walt Schroder (His Dad has a soft job in White Plains, N. Y.) placed 16th in Qualifications and moved up to 9th in the Finals.

Cliff Weirick and his 4th place "Rickey Rat". Cliff said this was his "last one." We don't really believe that.

Bob Violett shows that he really is draggin' his feet! "Miss Cosmic Trick" is fast. K&B power.

Vern Smith's FAI ship with homemade engine. It was fastest plane next to Violett's Bobcat. It crashed during qualifications when rain water got in the transmitter.

8. Telford/Violett Team (Cliff Telford)
9. Bob Noll
10. Bob Reuther
11. Jeff Bertken
12. Terry Prather
13. Mike Helsel
14. Tom Christopher
15. Pete Reed
16. Gus Geissinger
17. Doug Spreng
18. Irwin Funderburk
19. Dan McCan
20. Balko/Browning Team

Bob Violett, of the Telford/Violett team won the FAI RC Pylon event in a breeze. The team really deserved to win because they brought a well prepared team of Violett-designed Bobcat racers that were ready! Incidentally, Bob's excellent flying had a little to do with the overall results.

Ron Sheldon, flying an Ed Foster designed Avanti made it into a fly-off for first place with Violett but the Sheldon combination just didn't have enough steam left to beat the Bobcat. Third place went to the surprise contender of the meet . . . Jim Booker. Jim proved to everyone that he really meant business as he provided some real tough competition in every heat. Better watch

Continued on page 56

Jeff Bertken's Miss BS had second fastest qualfying speed, but finished in 11th.

John Brodbeck, Jr., Kent Nogy, and Jeff Bertken. Thankx . . . ?

Beautiful scratch-built model of Howie Keefe's Cox sponsored P-51 unlimited racer, by Ron Norgard, Davenport, Iowa. Has operating flaps and canopy, retractible landing gear, and throttle control. Max .80 powered ship placed 4th in Open Scale.

Control line

By DALE KIRN

A run-down on results in C/L Speed events at the 1973 Nats. Next month we will have more details of these and other C/L events, plus a full Stunt report by Bart Klapinski.

● This month's column will be devoted to the results of the Control Line events of the '73 Nats. Rain and wind hampered the first two days of flying. But this is nothing new for the Midwest. It is a standard joke that it always rains on 1/2A Speed/Proto day at the Nats. One new twist this year . . . 1/2A Proto was flown on Tuesday, and 1/2A speed on Wednesday. So, it had to rain on both days . . . and it did!!

SPEED

As 1/2A Proto day got off to a late start (noon), the flying time was extended one hour . . . to 6 PM. Very few modelers got in all of their flights as there were just too many planes (111 entered and 90 processed) and only two circles to fly in. The West Coast flyers made a strong showing in the 1/2A events. There were 45 Juniors flying 1/2A Proto (Profile), no Seniors or Open. In 1/2A Proto, there were 24 Juniors, 15 Seniors, and 27 in Open.

Mike Bussell with his record setting Class B Proto. Junior speed set at 138.35 mph.

First place in Open 1/2A Speed, John Shannon. Large ship has tuned exhaust for .049 Tee Dee.

Sam Snyder, Fresno, Cal., was Chief Processor in speed events. Thanx Sam. See you next year?

Third in Class B Open Proto went to Charles Anaston/Phil Bussell team. Tuned exhaust rig clocked 151.45 mph.

Jim and Fran Clem fire up 1/2A Proto Profile for son, Jimmy. He placed secon at 77.35 mph.

Team of Bartley/Garner/Huff took first in A Speed at 168.95 mph. Rossi .15 with tuned exhaust turned 6 x 9 Tornado Presswood prop.

M/Sgt. Gordon Ford and his 19 lb. B-52H, uses four McCoy 40's. His crew consists of Lt. Jim Sterzinger and Capt. Terry Sims (l to r).

In 1/2A Speed, there were 19, 14, and 25 respectively, for a total of 169 planes processed to fly in speed!

WINNERS

1/2A Proto (Profile)

JR.	Rick Westbrook	77.42 MPH

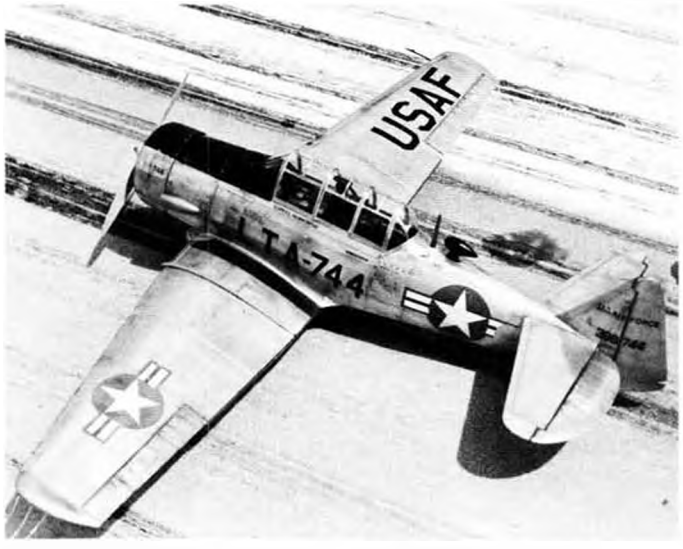
1/2A Proto

JR.	John Westbrook	86.59 MPH
SR.	Mike Langlois	95.91
OP.	Kirn-Kirn Team	93.28

1/2A Speed

JR.	John Westbrook	96.84 MPH
SR.	Jim Wade	102.58
OP.	John Shannon	111.34

There were several 1/2A engines with tuned exhaust systems, both in proto and speed. But only one was a first place winner . . . John Shannon in Open 1/2A speed. Left hand propellers dominated the 1/2A proto events. Shannon and Langlois were the only winners using right handed propellers.



Superb T-6 by Florian Piorkowski. Wiped out during flight . . . a victim of the wind.

Dub Jet and John Shannon with their 1st place Class B speed ship. Turned 188.01 mph for a new record.

First place in Open Scale was won by Bill Harney, with this fantastically detailed Japanese Zero. All controls work from cockpit, flaps and retract gear operate. Super Tigre .60 power.

Class II Fairey Spearfish by Richard Sawicki, Westland, Mich. Rossi .60. Fifth in Open.

Cliff Norman "Injects" fuel into his TWA .15. This is normal method.

Group shot of carrier planes entered by the Detroit Carrier team. This club did extremely well in Class I and II.

Max Snyder won 1st in Junior Class C and set record. K&B 40 Schnuerle turned 160.08 mph.

Al and Bea McCarthy (Denver Speed Team). Placed 4th at 127.39 mph. Rossi .15 power.

Bruce Mathews, Greensburg, Kansas, and his K&B .19 (green head) scale Volksplane.

John Westbrook, 1st in Jr. 1/2A Proto and 1st in Jr. 1/2A Speed with same ship! Mono-Line.

Familiar sight in speed area was this protective wire screen. It proved its worth on a couple of occasions by stopping some "flying objects."

John Westbrook (Los Angeles, Calif.) won two of the Junior 1/2A events. He used the same Mono-Line plane ("Lemon Twister") to win 1/2A Proto and 1/2A Speed. This clearly shows you don't need a "dinky" plane to win in 1/2A Speed. Jim Wade (Anaheim, Calif.) also proved this point by winning Senior 1/2A Speed at 102.58 MPH with his proto plane.

Several records were set in the other events: FAI Speed, Senior, Scott Snyder, 118.92 MPH . . . B Speed, Junior, Mike Bussell, 171.03 . . . B Speed, Open, John Shannon, 188.01 . . . B Proto, Junior, Mike Bussell, 138.35 . . . C Speed, Junior, Max Snyder, 160.08.

Tom Upton surpassed the existing Class B Proto at 156.59 MPH but blew his engine during the run and was unable to back-up the flight.

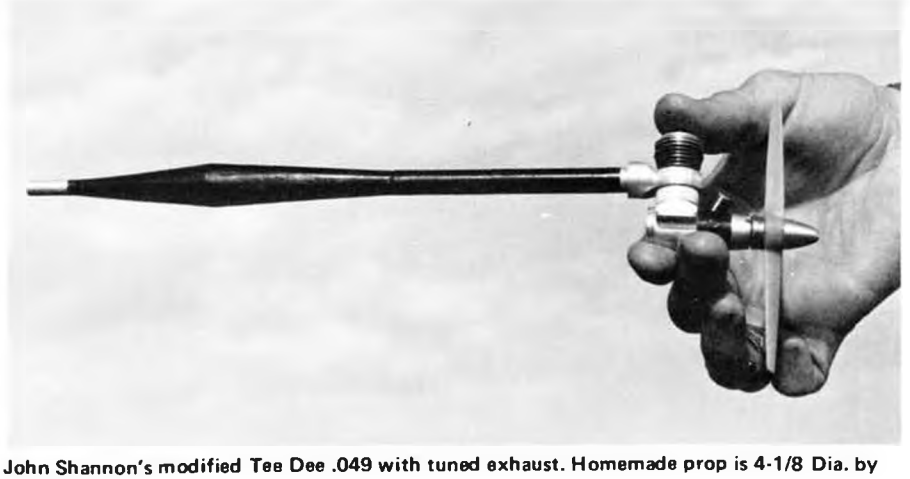
Jet speeds were lower this year than expected. All age groups were combined in this event. Myrle Hoyt won the event at 189.80 MPH with his sidewinder design. Jerry Thomas and Jim Wade were flying all metal (upright engine) planes. Jerry is planning on producing a kit for this plane. If you are interested in one, suggest you write: Jerry Thomas, 503 E. Wright Avenue, Tacoma, Washington 98404.

Entries in A, FAI, B, B Proto, C, and Jet speed totalled 265, with 48 Juniors, 48 Seniors, and 169 Open making up the total. *Continued page 65*

Dick Hall with his very unusual FAI speed plane. Short stroke home-built .15 engine is designed to run at 40,000 rpm!

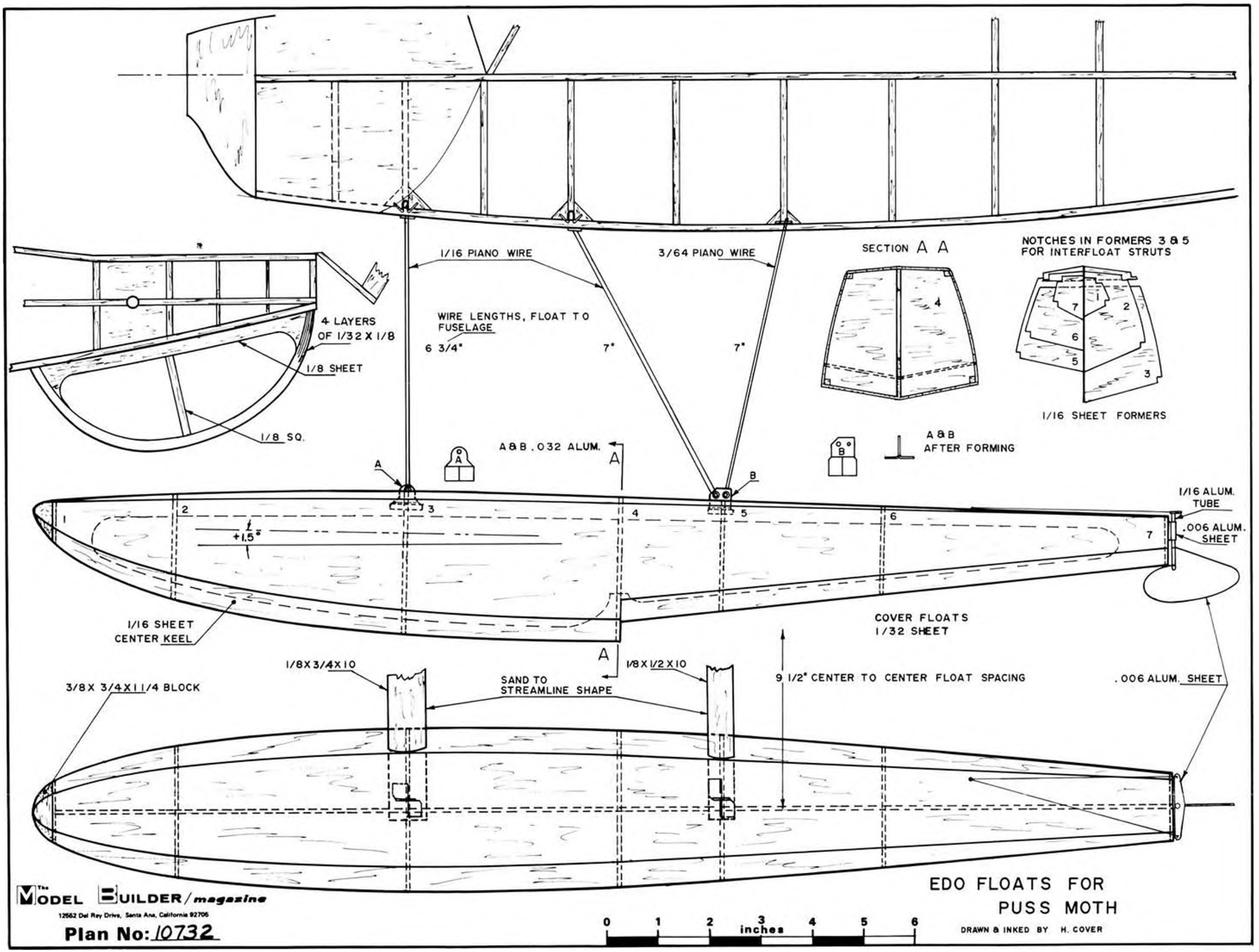
Team entry of John Newton/Jim Nightingale/John Beatty took 1st in FAI Speed at 136.90 mph.

Dick Hall's engine with head removed. Note neat bellcrank system. Fine workmanship.



John Shannon's modified Tee Dee .049 with tuned exhaust. Homemade prop is 4-1/8 Dia. by 6 inch pitch.

FULL SIZE PLANS AVAILABLE – SEE PAGE 72



You saw this picture some months ago, but we're showing it again because it's the one that inspired us to ask Hal Cover for a construction article on the floats. That Puss Moth looks so pretty sitting there we figured you might go for them too.

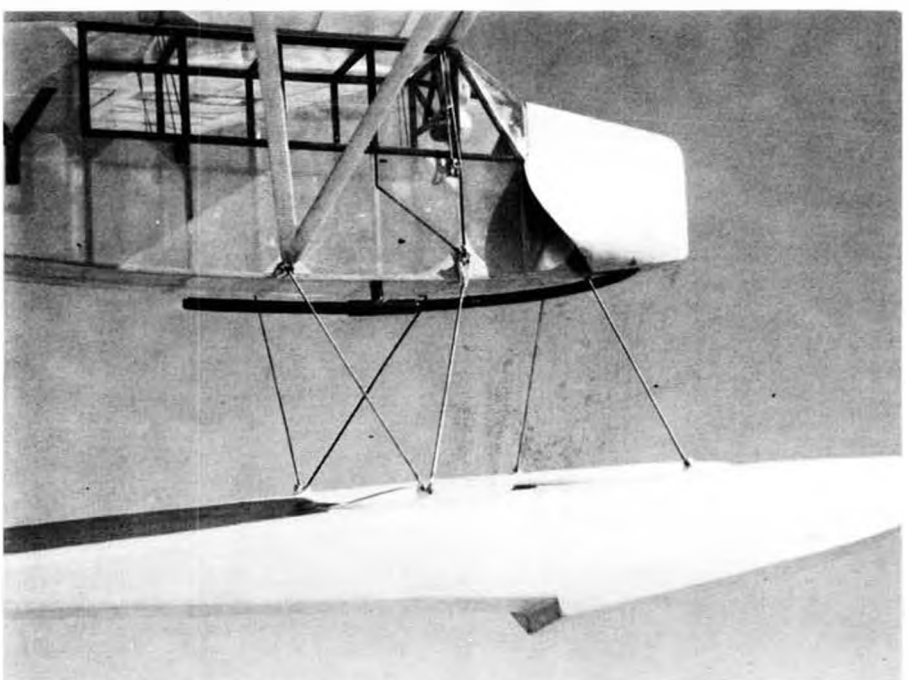
RUBBER SCALE EDO FLOATS

The Puss Moth, or most any scale ship, for that matter, on floats, is a thing of beauty and a joy forever. Use these scale Edo jobs as a basis for putting your model on the water. By HAL COVER

● With the past flying successes experienced with the updated Lanzo Puss Moth (M.B. Jan. 1972) it was a natural to add floats. Edo floats 1 inch to the foot scale (June 1938 Air Trails) were selected for this purpose.

Initial flight tests illustrated only one problem, a slight tendency to dutch roll. Fin area was added to correct this. All other flight adjustments were left alone.

Several items should be kept in mind when installing floats on any scale model. First, is the correct location of the step in relation to the center of gravity. It should be located slightly ahead of the C.G. . . . 2 to 3 percent of fuselage length. Next, the float angle should be 1.5 to 2.5 degrees positive to the thrust line. It is also important to mount the floats firmly so no movement can occur.



Plug-in landing gear struts makes it a simple task to switch from R.O.G. to R.O.W. Ship lifts off water in about 5 to 7 feet. Floats are 1/32 sheet balsa covered, very light.

CONSTRUCTION

Cut out two keels from medium 1/16 sheet . . . don't forget to cut out the center as shown. Four of each former should then be cut from medium 1/16 sheet. You will notice that formers No. 3 and No. 5 show notches for the inner float struts, but only two of the four formers require it. Glue the formers to the keels, making sure they are in line with each other and at right angles to the keel. Glue the two upper 1/8 square stringers to the No. 1 nose former. When dry, glue the two stringers in place to each former. Always work with both stringers at once, otherwise it will be difficult to keep the float keel straight. Attach the bottom stringers in a similar manner. Sand all the 1/8 square stringers to the correct former contour. *Continued on page 53*

The Lockport, Illinois "R/C Bird Sanctuary." Scene is the campus/airport at Lewis University, hosts of the 1973 R/C Soaring Championships.

R/C SOARING

By LE GRAY

A report on the 1973 R/C Soaring Nats by the 1972 LSF Tournament Champion, BARBARA HENON. Photos by Dick Shilling, and Lewis University's R. N. Vaughn.

Jeff Mrlik, 12, of the Greater Detroit Soaring and Hiking Society was the overall Grand National Champion of the 1973 R/C Soaring Nationals. Jeff flew his father's original design "Astro-Jeff" which, independently of Jeff's win, was selected as the best original design sailplane in the contest. Cooly competent and showing fewer signs of nervousness than many of the other 132 contestants, Jeff flew consistently throughout the 3 days of the contest. He scored 6,342 points out of a possible 7,000, hitting spots with championship precision and flying thermals with the ability of a turkey vulture.

No beginner in competition despite his youth, Jeff is an active competitor in club contests, having finished 2nd (Open Class) in this years Snow-Fly contest as well as winning Junior contests. Apparently, competition with fellow members of the Greater Detroit Soaring and Hiking Society, such as the Old Thermal Master Otto Heithecker (3rd Overall at this years Nats), and last years' Grand National Champion, Ray Vandierdonck, has honed Jeff's skills to an astonishing edge . . . this was his contest all the way.

Once again, the Soaring Nats was hosted by the membership of S.O.A.R. (Silent Order of Aeromodelling by Radio), under the leadership of Dan Pruss, C.D. Their experience and dedication in hosting the Nats for 3 years in a row has really paid off, as this was the best run and most completely organized competition the contestants had ever seen. In spite of a slightly late start, they managed to get in over 1,000 flights in the 3 days of competition.

Lewis University, Lockport, Illinois, the site of this years contest, is a campus

Somewhere under that hat is Jeff Mrlik, 12 year old member of the Greater Detroit Soaring and Hiking Society, who won the whole thing! Dan Pruss (left) and John Nielson congratulate him.

of some 850 acres which includes a small airport and features a program in Aviation Maintainence and a flying school, in addition to the more earth-bound scholarly programs that one would expect at a university. Their co-operation in closing down 2 of the 3 active runways made the contest possible. The marvelous site, perfectly flat and completely covered with grass, was the largest field many of the contestants had ever seen, much less flown on! In spite of weather forecasts which predicted rain and storms, the weather was ideal, providing ample lift for those who could find it. Large cumulus clouds were a magnificent sight to us Southern Californians who rarely get to see above the smog level.

The events at the contest included 10 minute precision duration, 2 minute precision, and 3 flights to equal exactly 15 minutes with precision landings. Separate categories were maintained for Standard (under 100" wingspan) and Open class sailplanes, as well as Junior and Senior divisions.

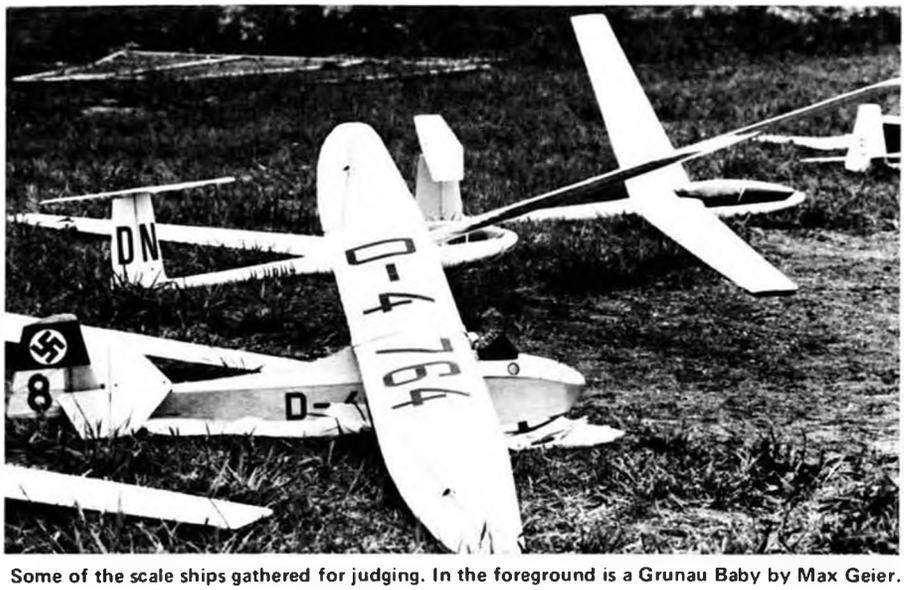
Standard Class events were dominated by Mark and Rod Smith, a father-son team of the Torrey Pines Gulls from La Jolla, California. Flying Marks Models Windfree gliders, Mark and Rod placed 1st and 2nd respectively in 15 minute Duration-Precision, followed by Bud Grover of the Soaring Union of Los Angeles, who also flew a Windfree. Mark and Rod also took 1st and 2nd in 10 minute duration, while 3rd went to Rick Lederman. Gary Joseph, of the Checkerboard R/C club of Chicago, was 1st in 2 minute precision, with Mark and Rod coming in 2nd and 3rd.

Mark Smith, who was last year's Standard Class winner, has recently broken the international closed course distance record in Hawaii with his Windfree while on location for the filming of the movie Jonathan Livingston Seagull, in which Mark flies aerobatics with a radio-controlled seagull of his own design. Mark was 2nd overall in the Soaring Nats this year.

Winner of the Open Class 10 minute Precision Duration, as well as the Open Class 15 minute Precision Duration, was Otto Heithecker of the Central Area Radio Drone Squadron (CARDS) and the Greater Detroit Soaring and Hiking Society. Although he has flown R/C for only 3 years, Otto has participated in many aspects of model building, including indoor free flight. He has been a member of the Detroit Balsa Bugs, a free flight club for 25 years. This experience has provided him with an uncanny sense for finding lift. A rumor

"Hey, would somebody mind watching the airplane?" From left to right, it's Mark Smith, Ed Manning, Rod Smith, and Otto Heithecker. Mark's plane is in the air . . . honest.

Ernie Heyworth holds his original design, "Big Red." With him, in the Mexican sombrero, is Preston Estep, Jr.



Some of the scale ships gathered for judging. In the foreground is a Grunau Baby by Max Geier.

was heard at the contest that on one flight a deep voice was heard coming from a cloud, it said: "Otto, It's God, you're going down . . . "

Otto's plane, an original design called "Challenger," won the award for the best technical achievement at this contest for spoilers that are actuated by flaps when the flaps are dropped to an angle of over 20°. With this method of actuation, only 1 servo is required for both flaps and spoilers. This gives him the capability of using flaps for the launch and when in lift. For landing, he flies over the runway with good speed and then hits flaps and spoilers,

Buck Zehr with his quite original design. He's from St. Joseph, Mich. Ship has 13 ft. span, short nose, but swept back wing.

"Hmmm, let me see now . . . forward is down, back is up . . . Oh well, maybe I can fake it!" Dave Shadel, SULA, about to launch Monterey.

which slows the plane down immediately and gives him great accuracy in precision events.

At the end of the 3-flight 15 minute Precision Duration, Otto Heithecker and Ray Vandierdonck were tied for first place. A fly-off took place in which and Ray timed each other, showing an admirable example of sportsmanship. Otto won the fly-off, giving him the event. Ray was second, followed by Rick Walters of the South Bay Soaring Society. Otto also won the 10 minute duration event followed by Max Geier of S.O.A.R. . . . third was taken by Jeff Mrlik.

In the 2 minute precision, Bob Gill of the St. Louis Eagles, flying a Graupner Cirrus, was the winner. Second was Dale Nutter, an AMA Soaring Advisory Council Member from the Tulsa R/C Soaring Club. Third was Milt Woodham of the Rocket City Radio Controllers (RCRC), Huntsville, Alabama. At the award ceremony his win was greeted by a blood-curdling screech that was later identified as an authentic Rebel Yell. Junior overall was won by Jeff Mrlick, 2nd was Milt Woodham, 3rd was Joe Navaro of Fairfield, Conn.

The team awards were as follows: Jr. Team was composed of Greg Smith, Milt Woodham Jr. and Jim Fitch of the RCRC. Senior Team was from the Torrey Pines Gulls, La Jolla, Calif., composed of Col. Bob Thacker and Mark and Rod Smith. They were awarded beautiful engraved silver mugs which should add a lot of class to their drinking!

The AMA award for good sportsmanship was awarded by C.D. Dan Pruss to the Greater Detroit Soaring and Hiking Society, for their assistance in running the contest. Dan's choice was greeted with a round of applause which indicated that his choice was appreciated by all who had seen the work done by the members of this club.

John C. Hoover squints into the glare, his dad, John L. lends some encouragement, and timing is K. Harrenstein. They're all members of the Davison Hill Toppers, Flint, Mich.

Bruce Zabransky, a member of the Checkerboard Field R/C Club, whose flying site in Chicago has been the scene of past soaring Nats, with his Windfree and powered hat lifter.

The decision for best Original Design Sailplane and Best Technical Achievement must have been very difficult to make. Seemingly there were more original designed planes at this meet than kits. This large number of well built and well flying models made the job of picking the best very difficult. Jerry Mrlik's "Astro-Jeff" was declared winner

Continued on page 64

Franny's Engine Forum

By FRANNY WOLF 513 Vesta Place, Reading, Pennsylvania 19605

If you have any questions on glow or ignition engines, write to Franny direct or through the MODEL BUILDER. Questions that appear frequently may be published in this column.

"Dear Franny:

In your opinion, is it feasible to use a K&B Stallion 35 piston and cylinder assembly on a Torp 35 green head? The bore and stroke are exactly the same, so are the outside dimensions and bolt hole pattern. One could simply rotate the assembly 180 degrees for a left hand exhaust. What I don't know is if the Stallion piston will accept theTorp wrist pin. Sure hope you can help. G. Mon Fredi

Fort Pierce, Florida

This is an easy one. Go right ahead, as parts fit as you say, including wrist pin. The K&B green head was and still is a good basic design and it was carried over into the newly named Stallion. I assume you are an engine collector and parts are hard to come by so, go right ahead. One thing, though, a real die-hard collector will easily detect the switch.

"Dear Franny:

I've heard rumors that O.P.S. will soon come out with a twin 1.20 engine; if so, can you enlighten me? B. Bilsom

Durham, N. Carolina

Yep, O.P.S. sure is soon coming out with a twin, namely B.20 but, and I do mean *but*, in very limited numbers. It will be quite an engine and darn expensive. It will have two separate cranks which are connected by a toothed belt (like on dragsters . . . a Gilmore Belt) driven by Pulleys with 10 and 20 teeth. One crank configuration, with the crank mounted on *six* ball bearings. They claim it puts out 3.5 h.p. at 17,000 R.P.M.'s. I expect to check one out if and when received.

"Dear Franny:

My son is very active in R/C planes and recently purchased a 'copter. Neither of us can figure out what I consider to be a real problem. His Veco .61 runs real good in his plane, but just won't run in the chopper. It sounds like it's pulling a truck. He did pile it in prior to installing in the chopper, but we took it out and installed it in another plane and it ran good. It just won't run in the chopper. Do you think we are going about this the wrong way? It vibrates since the crack-up.

B. Cameral

Newark, N.J.

I'll bet my bottom dollar the crank shaft is bent, or the crank case is out of alignment . . . or both, resulting in excessive vibration. As for its not running in the chopper; make certain there is crank end play, it needn't be much (about 10 thousandths), when all components are on the crank. Another thing, make positively certain the motor mounts are flat on both engine and chopper. The only way to check these is on a surface plate, using Dial indicators. Why not check with a local machine shop? They will check it out for a nominal fee . . . most likely for free.

"Dear Franny:

Being an admirer of Hornet 60 engines, do you know who was the original designer? J. Rowe

Reading, England

Yep, sure do. As a matter of fact, it was originally designed by two guys, namely Anderson and Cave, way back in 1940. It was then called an A-C .60. Later on, Ray Snow vastly improved its design, put it on the market and named it the Hornet. Ray hailed from California, and not too many people knew of him as an inventor of many articles used in every day life. Ray was a dedicated model engine manufacturer. His revamped Hornet is the grand dad of all model speed engines in use today. Too bad he passed away last year, as he was designing a radical engine prior to his death. A lot of eyes would open if someone wrote of his accomplishments, and were there a hall of fame. His name should be listed. Just prior to his passing away, Ray sent me quite a few copies of his inventions and his engine activities. Hope this fills you in. If not, write for more info.

"Dear Franny:

I've been told that in order to get full potential from my S.T. 61 R/C, I will have to run five gallons of fuel through it. I would appreciate your views. F. Pointer

Phila., Pa.

Wow! That's a heck of a lot of juice and a lot of dough. Sure hope you're not running it that long near neighbors . . . you'll have the cops after you! Your S.T. has a chromed liner and it's normal to take longer to break in, but holy cow, it shouldn't take all that fuel.

As to fuel, you forgot to mention the brand, so while it's fresh on my mind, I'll enlighten you on a matter very few are aware of. About the beginning of 1973, castor oil sky rocketed in cost, so many fuel manufacturers, in order to keep their products at a reasonable cost to modelers, either cut down on castor or entirely substituted a synthetic oil. In going into this crash program, some manufacturers got trigger happy . . . didn't use the correct oil, too little . . . or both. The best lube is still castor oil, but it must be properly processed to remove impurities. Franciscan Laboratory of California markets degummed fortified castor oil, the best in my book. Don't get the idea that I'm downing synthetic oils. Ucon is darn good, however, to get the right one is the trick.

"Dear Franny:

I enjoyed our recent phone conversation and if at all possible, you should include a part of it in your MODEL BUILDER column. I'm sure it will be of interest to many.

L. Snyder

Westland, Mich.

Sure thing, since you brought back memories of Goldberg Zipper and Sail plane free flighters. Like you said, those were the good old days. Gas and oil fuel, no secrets, and readily available, sparked Ohlson 23's, Brown Jr. 60's and Dennymites. Darn cheap in price and cheap to run. How about those 20 sec. R.O.G. flights? No dethermalizers at first, a short time later pop-up elevators. Free flighters today are totally unaware we had straight up power flights. I remember competing with Goldberg, Shulman, etc. we had a ball. Today F.F. is highly competitive, with exotic bombs out front putting out much more power to weight ratio than the engines available way back. I feel as you do, F.F. is still a good hobby. Since space is limited and since you asked for a source for sparked engines, anyone interested should join M.E.C.A. (Model Engine Collectors Assn.) c/o R. McClelland, 97 Over Look Road, White Plains, N.Y. 10605. Send along $5. for a years subscription. Many oldies listed in their bulletins, I'm sure you'll find one your looking for. ●

Charles Schobloher, Detroit, Mich., launches his very stable Beech Staggerwing during F/F Scale at the 1973 Nats. Believe it or not, the takeoff area was on the taxi strip used by cars going to and from the C/L and other F/F sites. However, there was tall grass just 20 yards downwind.

FREE FLIGHT SCALE

By FERNANDO RAMOS

● At this year's Nats there were 47 models entered in F/F Flying Scale. Twenty-five of these were rubber models, and in the power class there was one CO_2 model and one powered by an electric motor. The quality of the models was, in general, very good, with a few quite exceptional. Unfortunately, there are still too many models that have never been flown prior to the Nats, and certainly, this is not the place to be unprepared. I had an opportunity to be a scale judge in F/F again this year, so I would like to make a few brief comments regarding some observations I made during both the static and flight judging of the models.

First, apparently, many scale modelers are not aware that up to 50 points are possible in the presentation alone. Some presentations have been so poorly prepared that they received as low as a scant 3 points. This can really hurt, particularly if the model itself is a good one. It seems that the F/F fraternity spends the least amount of time in this area. R/C presentations generally are the best done, with C/L right behind . . . I think it may be a good idea in a near future article to reprint the judges sheet, and to go over what is considered a good presentation, step by step.

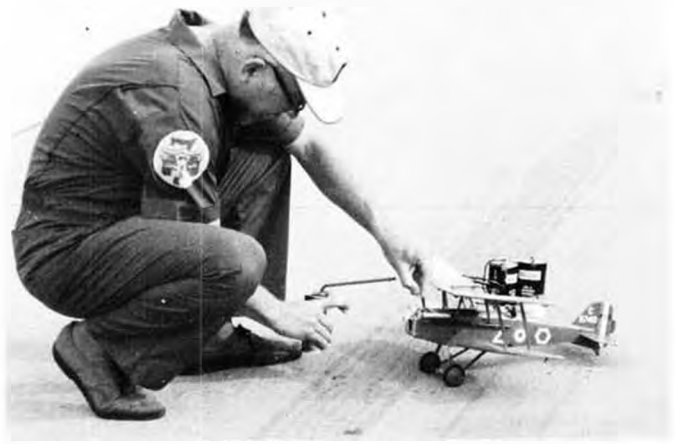
Many models were far too heavy for their size and wing loading, and their outcome was predictable even before seeing them fly. Granted, the Nats

Jack McCracken and his 1st place winning Sopwith Tripe. It's the plane on the cover.

Tom Stark and his Parks Monocoupe, which was first in Open Rubber Scale. Daughter Rebecca, who was second in Junior/Senior, lends a hand for the winding process.

Winding that Beechcraft is not exactly a one-man job! While Charley cranks, Pres Bruning (cap) holds the Beech, Jack Russ guides the rubber, and (is it Fred Wunsche or Bob Mosker?) also holds model.

Ron Martelet's "Chambermaid" put in very stable, long flights that earned it second place in Open Rubber Scale. An unusual project.



"Now don't worry, this won't hurt me a bit." Bill Bell fuels up his SE5A built from Guillow kit.

Matt Gewain's Sig Piper Supercruiser placed 5th in Open Scale Gas. Power is a Cox .049 Babe Bee.

for the last several years has been held where wind is a definite factor, but a heavily loaded scale model is not the answer. I personally would rather see a larger model with more cc's up front.

Another problem, also too common, was that several models were way over-powered. This is O.K. for an R/C model that has throttle control, but not good for F/F scale. The object is to have the model fly realistically, not like an F.A.I. F/F. Choosing an engine is a very important part of flying scale. A diesel is really ideally suited for this task. They can be "over-propped," giving the model the wanted realism in flight.

Judging took place on Tuesday and Wednesday, with Thursday being the scheduled day for flying. Rain hit Wittman Field on Monday, Tuesday, and Wednesday. No, it did not rain on

Lee Webster's little Sopwith Camel placed 3rd in "gas." It is powered by a Brown CO_2 . . .

Dan Geldermann, Jr. built this Aeronca Champion from a Guillow kit. He placed 2nd in Junior/Senior Scale Gas, using a Cox .020 Pee Wee

Bruce Mathews releases his Leopard Moth. That strut is about to cancel the flight! Plans were enlarged from a smaller gas version designed by Bill Warner and published in M.A.N.

Pres Bruning launches his Savoia Marchetti SM 81 rubber scale which placed 3rd in Open.

Thursday, but the winds were blowing between 20 and 30 mph all during the flying. Those who fared best were the contestants who were on the flight line at 8 o'clock, ready to fly. Jack McCracken, the eventual winner in Open Scale was the first to put in an official flight with his exceptional Sopwith Triplane. Always in the winner's circle was Tom Stark, with a 2nd place, flying his R.E.P. Third place went to Lee Webster, who was flying a Peanut size Sopwith Camel powered by a Brown CO_2. The Camel had much detail for its size and it flew very well. Bucky Servaites took 4th with a good size model of the Douglas 043-A, and 5th went to Matthew Gewain flying a Sig Piper Super Cruiser.

In rubber power, Tom Stark won again, flying a neat Parks Monocoupe. Second place by a mere one point was Ron Martelet, flying a very unusual subject, a Chamber's Chambermaid. Ron does a beautiful job of building and flying. Richard "Pres" Bruning was 3rd, flying a Savoia Marchetti SM-81. This

Jack McCracken applies the "convincer" to the Doonside Mills diesel in Bill Warner's "Miss Los Angeles" Brown Racer.

Bill Wargo, Redding, Conn., built this Lockheed Vega "Winnie Mae." The Cox .09 was having running problems. It did not place.

Engine running at last, Bill Warner's Brown Racer begins takeoff. For added stability in flight, Bill rigged the wings so that they pivot into extra dihedral under flight loads. Cleverrr!

The Brown in flight . . . just before engine cut. Extra dihedral is obvious here.

Tom Stark and daughter Laurie. She placed 3rd in Junior/Senior Scale Rubber with this Tailwind.

Ric Dittman was 1st in Junior/Senior Scale Gas with his Loening M-8. Power is an .010 Cox with 3-3/4 x 2 prop.

Tom Stark's Cox .049 Babe Bee powered REP "K" placed 2nd in Open F/F Gas. He's a very strong competitor in F/F scale.

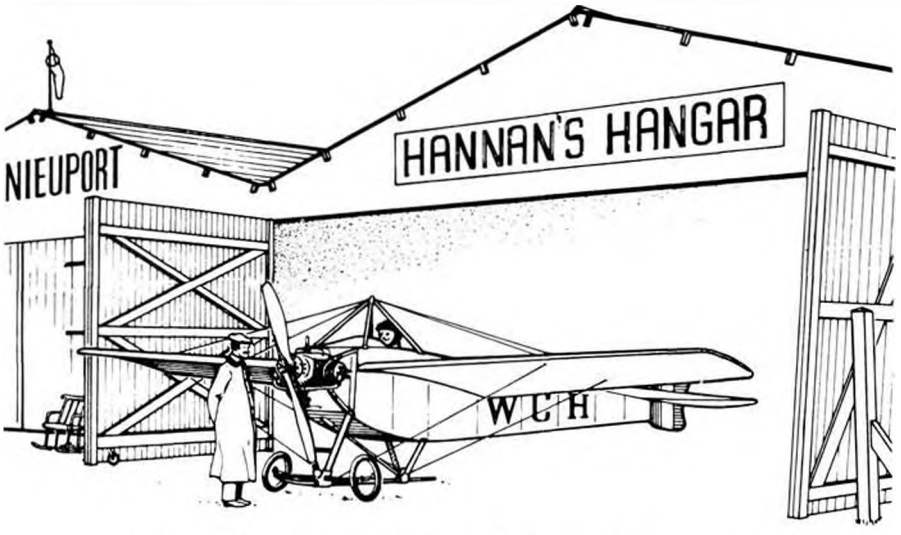
Bruce Mathews' dad, a dentist, holds on to the Leopard Moth while he cranks in the winds. Note the tall stuff immediately downwind.

This Monokote covered Skyfarer earned 1st place in Junior/Senior Rubber Scale for Fred Calhoun, Jr. Earl Stahl's 1941 plans in M.A.N. were enlarged to build this model.

was another unusual subject weighing only 2.5 ounces. Andy McIsaac had a superb flying Itoh N-62. Andy is well known for his outstanding indoor model of the Hawker Fury. Fifth place went to Harold Bill Warner with a model of an ultra-light Compte AC-4.

Those of you who follow scale, certainly recognize the names of the winners in both events, for these are essentially the same names that appear year after year. The reason is simple. They are prepared! Their models are well chosen, built properly, and probably above all . . . they are well test flown. You too can be a winner if you take the time to prepare yourself properly. Let's see if you can do it next year.

In closing, I want to thank all of you who complimented both the MODEL BUILDER and the editor of this column while we were back there in Oshkosh. Scale modelers are a great bunch, and we enjoyed seeing all of you! ●



. . . being a few chips off the ole (balsa) block . . . . .

"Pie in the Sky" trophy, awarded at the San Marco, California kite contest.

"FLYING PEANUT," ANYONE?

No, we're not referring to Peanut Scale, as you might suspect, but a small cardboard model on the back of a new cereal box. PEANUT BUTTER "crunchy-sweet," from the Quaker company, features "Smedley's Flying Peanut" on the back, with an elephant at the controls!

According to the official plans, no glue is needed, but the parts must be cut out and taped together. Others in the Quaker squadron, available on other cereal boxes, include: Cap'n Crunch's "Flying Guppie," The Berry Bomber, and Wilma's "Sky Whale," which sounds a little fishy to us. These items might also be correctly called Penny Planes, since that is what they use for nose weight. Judging by their flight performance, more effort must have been expended on cartoon aspects of the planes, than aerodynamic characteristics.

A REALLY SHARP PRODUCT

No pun intended, as we refer to the über skiver, the best modeling knife to grace the old work bench yet. This precision tool was originally designed for use in microcircuitry, photofabrication, and graphic production, where utmost accuracy is required. Among its outstanding features are:

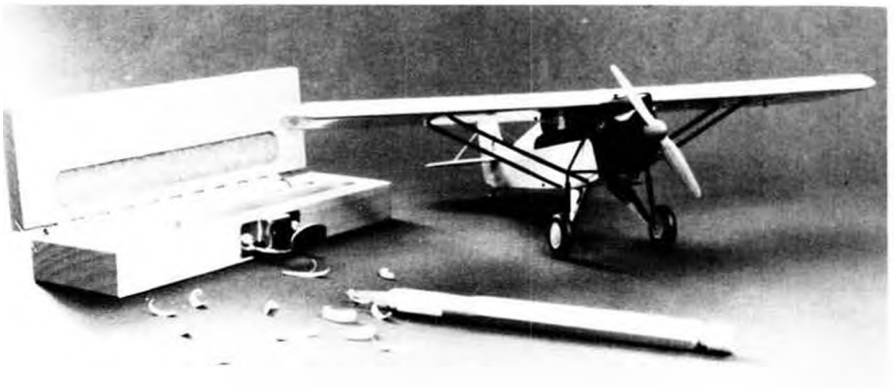
1. The blade-holding collet is positive in action, and is actuated from the rear of the tool. Thus, there is no danger of loosening during use, yet the blade may be readily removed when desired.

2. The handle is of hexagonal cross-section, which discourages its rolling off the work table (Ever have a knife fall on your leg or foot?).

3. The durability of the blades is far and away above any modeling brands that we have tried. These surgical quality items are made from a special stainless steel, with a chromium additive.

More esoteric, and difficult to describe in words, the über has a fine, balanced "feel" that makes most other modeling knives seem rather crude by comparison. *Continued on page 58*

Flying scale model Spitfire, by Doug McHard of England, soon to appear in a book of WW II flying models to be published in Canada.



Shades of the 1930's! A Corben "Super Ace" old fashioned wood solid model "hacked out" by Bill Hannan, using the excellent uber skiver model knife shown in the foreground.

Just to show he's not kidding, here's another "solid" by Bill, a Pietenpol.

Walt's son Doug built this replica of a Piper Vagabond that Walt once owned, and for which he still holds fond memories.

PEANUT GALLERY

By WALT MOONEY. Our Peanut of the Month is a special favorite of the designer . . . he owned a full scale version for a period of time. Be sure also to note Walt's dissertation on scale scoring, it's a good one!

● The Vagabond was manufactured by Piper in the late 1940's and was an attempt to produce an extremely economical two place side-by-side airplane. It had as few frills as possible. For instance, there were no shock absorbers on its rigid landing gear, there were no stringers on its square steel tube fuselage, there was a single door on the right side, and there was a single set of controls for the pilot only.

The little airplane was a delight to fly . . . it was faster than a Cub on the same power, and with the smaller wing, was less affected by gusts and cross winds on the ground. I owned one, and loved the little bird. It flew stably and landed easily. It would cruise at 87 mph while burning only three-and-a-half gallons an hour. I've regretted selling it since the day it flew out of my sight.

So, the model you see is of N4314H, a red and white and black exercise in aeronostalgia. The low aspect ratio wing makes the model a good one for the small Peanut Scale, and the one photographed is capable of 30 second flights indoors and whatever the god of the thermals dishes up outside.

Wood sizes are all such that a beginner can handle them without too much trouble. An experienced builder can decrease the sizes or thicknesses of the wood and build a lot lighter model that would be capable of much longer flight times.

The construction of the model follows the most usual practice so a construction article is not necessary. Certain points should be mentioned as follows:

The fuselage has a square cross section except at the very front end where it is narrower at the bottom than the top. Unless you build a very light model, the forward cowling can be made of block balsa cemented to the structure and carved to cross section, thus eliminating formers and the necessity of wrap-cowl. The model shown needed some nose weight to balance it, so a little more weight and strength won't hurt.

All the wing ribs are built up as rib R2, except the two ribs, R1, at the center. The spar is cut out and the two center ribs are slipped over it. Then build one wing half at a time over the plans, using one sixteenth square for the bottom of the R2 ribs and slicing the tops around a pattern from sheet.

Cement the landing gear fairings to the fuselage but not to the wire. With the wire free to flex the wheels can take an impact without putting the load into the fairings and fuselage structure.

The thrust bearing is one of the Peck Polymer nylon ones, and the propeller is a trimmed plastic one from a North

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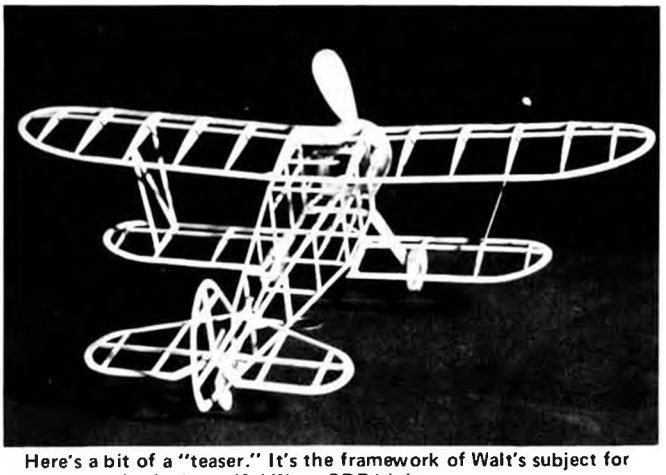
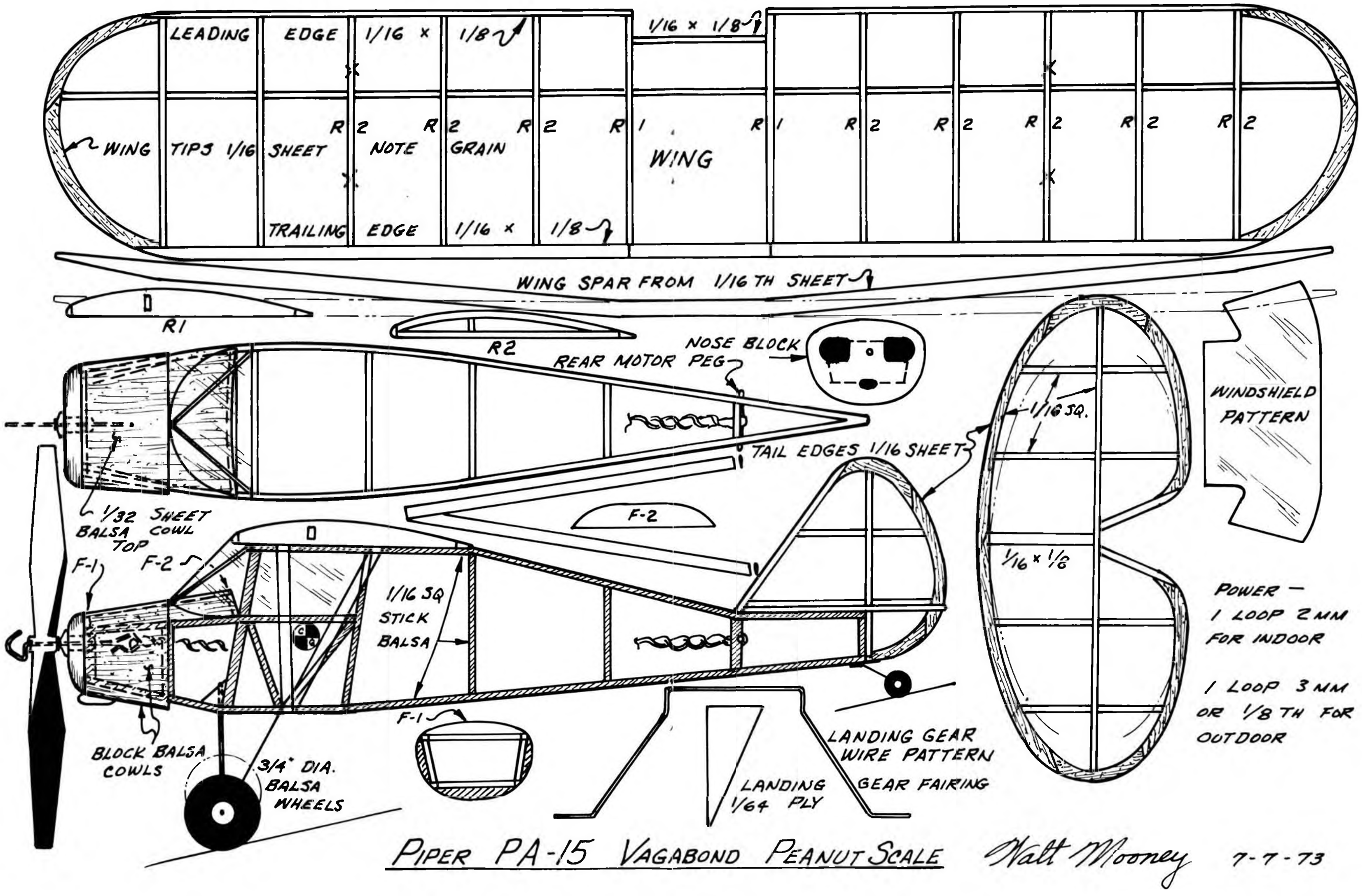
Generous flying surfaces make the Vagabond an excellent choice for Peanut scale. Note "grain" in the prop. Inked hinge lines nice touch.



Here's a bit of a "teaser." It's the framework of Walt's subject for next month, the beautiful Waco SRE biplane.



PIPER PA-15 VAGABOND PEANUT SCALE Walt Mooney 7-7-73

Jim Noonan, of Old Timer fame, launches his entry in the unofficial Rubber Speed event, revived from the "good old days" by the NFFS.

FREE FLIGHT

The 1973 Oshkosh Nationals are over, and as expected, Freeflighters came away somewhat dismayed. For some philosphical yet pointed observations, let us turn to the NFFS Exec. Director, HARDY BRODERSON.

● Two minute maxes, seven second engine runs.

Talk about a small field event . . . this was probably the largest contest on the smallest field of all time. Accessible by a single lane gravel path, the launch area was a recently mowed patch of alfalfa nestled between three different corn patches with woods downwind. Make it over the woods and you had your choice of several cereals, other woods . . . or the farmers. At one point, models were being impounded by a farmer who felt his crops were unfairly treated by disorganized retrievers, some of whom rode trail bikes into his crops. An AMA delegation went out to negotiate a peace, which included a promise to pay for damages to crops and the exclusion of trail bikes except on the airport property (this exclusion including the public roads). AMA made a major PR effort before the Nats to alert the adjoining area residents that Freeflighters would be visiting them from time to time. The farmer who confronted Andrew Chesson with a shot gun had not

Charlie Sotich talks about a pretty well known model, an all-time top ten. MC for the NFFS Symposium, Bob Mueser, listens. Korda, natch!

Photog for many of our Nats F/F pictures, Rick Lyons, and his clear mylar covered "Zip-Zip", designed by Charlie Sotich.

Bill Roush launches his Rossi powered FAI job which placed him 2nd in the Open Class. He's from La Crosse, Wisconsin.

Bill Hunter about to "javelin" his Class B Satellite for another max. Design is one of the NFFS "Ten Models of the Year" for 1973.

Jean and son Barry Pailet setting up for an official in A/1. From this angle, it looks like a big field . . . only from this angle!

been impressed. The contest was notable more nearly for those who *did not* fly. At this writing we have only registration data available: 2000 in 1972; 1917 in 1973, down 10%. No data telling us how many actually flew, as yet, but it was clear that no serious contest was possible in Unlimited Rubber, and that the FAI events were sparsely populated for the combined reason of the site and the closeness of the Semi Finals. Class C Gas turned out to be fairly interesting, in that we were able to see the Hunters in action, the Satellite having been named one of the Ten Models of the Year by the NFFS. Eight maxes confirms the choice. *(The Satellite City kit will be subject of "Products in Use" article next month. wcn)*

One guy who did a lot of flying was Bucky Servaites: Grand National Champ, and Freeflight Category Champ. John Worth's comment was apt; he

Dave Rounsaville with ST .23 powered Midi-Pearl. Dave won Open FAI with his own "Excelsior" design, powered by an Anderson modified Rossi. He's from Milford, New Jersey.

Carl Goldberg figures that if he keeps his Holland Hornet (who?) powered Viking (what?) long enough, it will qualify for the Old Timer event! Carl Fries, one of NFFS founders, checks for cobwebs.

Charlie Sotich launches his Wakefield as the corn fields and woods wait expectantly in the background. This part of Wittman Field still has traces of Indian campfires . . . with hot ashes yet!

With the help of the SHOCer used in Class B for a 2nd spot, Bob Watson became F/F Category Champion for the second year in a row. Ship was published in MB . . . see plans page.

Carrol Allen, 1st in Open Wakefield, compass in hand, walking the line in chasing.

Kit Bays, Ann Arbor, Michigan, with his "Gambit" A/2 Nordic. $A^2\ C^2\ T^2$? Hmmm . . . let's see, Ann Arbor Category Champion Towline Team? Ann Arbor Cat Calling Tail Tanglers? . . . . No?

didn't do much complaining! I timed his top indoor hand launch flight of a minute and ten seconds . . . very impressive. Then, he turned right around and won a place on the FAI Indoor team. Another indoor achievement of note is Bob Randolph's new Cabin record, which now gives Bob (ah, Col. Bob) the record in all three ceiling categories for cabin.

We lost one more light at the Armory, but gained an almost invisible cable hanging down from the empty socket. Why did the light fall? The lights are let down by a cable which runs through a conduit from the top row of seats up to the socket under the truss. Unhook the cable and snap on a chain

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Gene Verslav and Rol Anderson show that every body needs milk! It helped Rol win Third in Class B Open.

Bob Haner (left), Marge and Fred Duncan grab a bite to eat after the rains on Wednesday. Duncans are busy contest goers on East Coast.

NATIONAL FREE FLIGHT SOCIETY NEWS

THE NATS

Those of you who attended the Nationals this year at Oshkosh can see the need for a strong National voice in the choice of a Nationals site. For those of you who could not attend, I'll briefly explain the problem.

The area designated as the free flight launch site was quite small and surrounded by corn fields. The wind came from the southwest or west most of the time, causing models to go off the field within about 60 to 90 seconds. Chasing was very difficult because of woods that were almost impassable and corn fields that were 6 feet high. John Worth and John Clemens tried their very best to make the site tolerable, but they had too many things that they had no control over going against them . . . namely the weather and the FAA. Had they been able to shut down Wittman Field to normal air traffic, there would have been other areas that could have been used for free flight.

There are two ways that we, speaking now as free flighters, can help in assuring that next year's NATS site will be more tolerable. The first is to scout around your area and see if there are any sites that would meet the requirements for a national model airplane contest. (Don't forget the other areas of our hobby; control line, radio control, etc.) If you think you have a possible site, write to the AMA and request their nationals site requirements outline sheet. After receiving this outline, check to make sure your site meets all of the basic requirements. Then check with the owners of the property to see if they would even consider having the Nationals there. If they are willing to at least think about it, write to the AMA immediately, explaining everything you have done and name the person they would contact.

The other way you can help is to join the National Free Flight Society. The Directors of NFFS can have a very good working relationship with the AMA, but they need the backing of all free flight people. When Hardy Brodersen calls John Worth to express his feeling on a subject, John must be aware that Hardy is representing the bulk of free flight people in the U.S. At the present time, this is not the case. NFFS must grow and it must grow NOW. If the complacence continues, we might be in the same spot next year that we were in at Oshkosh.

NFFS SYMPOSIUM

The NFFS Symposium meeting this year in Oshkosh was attended by about 175 people, lasted until about midnite, and was very informative.

Mattel's Joe Jacobson discusses "Superstar" at the NFFS Symposium as Bob Mueser looks on. Also received "Best Dressed at Nats" award!!

The meeting started out with reports from Hardy Brodersen, Charlie Sotich, and myself. Hardy then introduced John Worth, who spoke on the problems of choosing a NATS site and then fielded questions from the audience. The meeting then proceeded with the presentations of some of the 10 models of the year. Bill Hunter presented his SATELLITE, Bill Chenault, his MINI PEARL, and a representative of Mattel accepted the award for the SUPERSTAR. After the presentations, Bob Meuser gave his report on Canformed props, and to finish up the meeting, Doc Anderson gave his report on the Rossi engine.

During Hardy's speech he made the announcement that starting January 1, 1974 there will be a yearly $5,000.00 scholarship program. General ground work has been laid and methods of funding have been worked out. More information will be available later. The Director of the program is Vick Nippert, from Lake Patrine, New York.

NFFS SUPPLIES

Bill Vanderbeek, in California, now has his basement all cleaned up and is in business selling all the NFFS Free Flight supplies. Many of these items are either hard to find or are not readily available through your local hobby shop. Some of these items are: light weight fiberglass tail booms; 1/8 dia. landing skids with 2 coils; carbon reinforcing fibers; machined aluminum propeller hubs; etc. Write to: Bill Vanderbeek, 630 Ashton Avenue, Palo Alto, Calif. 94306, enclose a stamped, self addressed envelope and he will send you a complete list with prices.

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NFFS MEMBERSHIP AND RENEWAL APPLICATION

(Make checks payable to; National Free Flight Society)

Mail to;
B.J. Kelch, R.R.4, Box 475,
W. Terre Haute, Ind., 47885

			FEES 1 yr	FEES 2 yrs
RESIDENTS OF FOREIGN COUNTRIES			$4	$7
U.S. RESIDENTS	Age 19 and up	AMA Members	4	7
		Non-AMA Members	5	9
	Age 15, 16, 17, and 18(Senior)		2	4
	Age 14 and under(Junior)		1	2
	Family membership*		1	2

All members receive NFFS Digest. Family membership fee includes all additional family members, but no additional copies of the Digest. Ages are as of July 1 of current year. Please circle applicable fees.

New Member ☐
Renewal ☐
Address Change ☐

Current expiration date:
Month Year

Name AMA No.

Address

City, State Zip

*Please list family members
Name

AMA No.

Andrew Bennett, Ann Arbor, Mich. winding Wakefield while dad does the anchoring.

Gil Graunke, Bong Eagles member, launches "B" gas job. Looks like another SHOCer.

George Rivers, Brooklyn Skyscrapers President, takes an official in Class G (Guzzling).

Pennsylvanian Jim Parker prepares his Starduster for an official.

Rob Lyons, Rick's brother, launches "A" gas on test. Heads up for that rubber ship!

Continued from page 40

and feed it up into the conduit, thus lowering the light. I watched the operation at close hand. The snap was attached to the chain with three turns of light copper wire, a recent repair. As the chain went up the conduit it snagged and the light bounced once or twice. The bounce broke the copper wire link and the light smashed to the floor. The work was done by the custodian who was over seventy years old. On such fragile details as these depend the fortunes of our indoor site availability.

Immediately adjacent to the Freeflight Nats was a large airport where expansive runways were populated by Control Liners and Radio Controllers, with Scale and Old Timers using one of the cross-overs between the main runway and the taxi strip. This was the east-west extension of Wittman Field, the operating portion of the airport being to the east of the Radio Control area. I many times drove up and down the 6700 foot length of this part of the field and bitterly speculated that all those control line circles could have been placed half again as close together, and the RC operation conducted a little closer to the CL circles, thus giving the Freeflighters about a quarter mile of open airport. But as I did so, I looked downwind, which was south, and saw woods, crops, houses and clutter more dense than that which was downwind from our alfalfa patch (How do I know, I *think* it was alfalfa). I could not fault the choice of launch point which apparently afforded the better downwind terrain. This was the same frustration I had when I first visited the site with the Nats planning group in early spring . . . in a sleet storm: The site is not acceptable for a

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Jim Kutkuhn, West Wallingford, Pa., launches his FAI power model.

main sheet

By DON PROUGH

● In September of 1970, Ray Mottinger, in his column "Tillertalk" announced the formation of the American Model Yachting Assn. The express purpose of the organization was to promote and provide R/C sailboat competition. The "Chosen Nine," as the first group of officers was called, had dreams, but accomplishment has far exceeded the wildest of those dreams.

R/C yachting has grown seven times in size in the last two years, and the growth chart has not shown any sign of decreasing. The level of competition has become very intense, but it has also become much easier to learn how to sail and be competitive. Many fine articles have appeared in various publications recently. The one that seems to have had the most impact was the "Pea Pod" (April '73 MODEL BUILDER). Our fearless editor tells me there is a fleet of twelve of them sailing in an Eastern group, and that the plans have been very much in demand.

Many people were surprised to find that AMYA was represented with a booth at the recent MACS show. I was very pleased with the questions that people asked, and the response that dealers and the public gave us. Steve Robins and George Dornis spent a great deal of time manning the booth. They both had the same two comments . . . (1) people just don't know what makes a sailboat go, and (2) how do you tell someone what class of boat to purchase. To answer the last comment, any class you start with is the best, provided there is someone else with a boat of that class in your area! If nobody in your area has a boat, *you* decide and then get others to join in the fun.

Among the skippers who I know down at the local pond, there is a mixture of sailing and good fellowship. The fun and chatter is one of the very important things that keep people sailing. Competition has been the basic interest of many of the skippers, but all of them take the time to instruct the new boat owners with tips and hints on sailing and tuning. If anyone thinks there is little knowledge and effort involved once a boat is built, they're in error. Keeping a boat in racing trim requires thought and effort. The cost factor is nill beyond the original investment. All competitors have the same wind and water to make use of. Races are won and lost by not being aware that the wind has changed slightly or that there is a slight current that can help you.

Information about the various classes can be found in back issues of MODEL BUILDER, or by writing to AMYA Secretary Chuck Black at 4761 Niagra, San Diego, CA 92107. The two most popular classes (Santa Barbara and 50-800) were discussed in the June and August issues of MODEL BUILDER. If you do not have these issues you can send in for them, but when you do, also include your subscription application. If you don't have a subscription, shame on you! Fill out your application now! *(Right in there, Don! You're a good "company man". wcn)*

The next subject that comes up after "What boat should I get," is what to do for a winch and what brand of radio to use. The winch problem is a lot in the field of personal choice, and there are only a few that are on the market since the supply of surplus Super Hanson Drone servos has been used up.

When it comes to a radio, we suggest that you see what the other fellows are using. Pick a good brand of radio, one that can be serviced (if needed) and returned in a reasonable length of time (10 days max). There is nothing more frustrating than to be landlocked because the radio will not work. I have had radio trouble, but in every single case it has been my failure to charge the batteries properly or because we have sailed past the capacity of the battery pack. *(Like sailplanes, sailboats are very easy on radios. Controls are not as touchy, and there is no vibration to cause deterioration of components. Consequently, radio quality is not of as great concern as it is for high performance aircraft. wcn)*

Next month there will be a "Products in Use" report on the Tahoe 600 produced by Victor Models, also their Sail Control Unit. I have seen the yacht sail and I am sure that you will enjoy the report on the kit and its construction.

In a subsequent issue there will be some information on the various sail control systems and a list of manufacturers.

If you have any topic that you would like covered, drop me a line at P.O. Box 639, Escondido, CA 92025. ●

Here's the guy to blame for all this Old Timer business! It's the "Old Man" wearing his "Over the Hill Gang" shirt. New Ruler is R/C version.

PLUG SPARKS

JOHN POND is with us again as he describes the unofficial O.T. R/C activities at the 1973 Nats. Next month some details on the F/F O.T. events.

● FUN is the name of the game, according to Everett "Woody" Woodman, Contest Manager, of the recent unofficial Old Timer F/F Radio Control events held at the National Model Airplane Championships at Oshkosh. After competing in these events, the writer sez FUN, FUN, AND MORE FUN!

Old Timer F/F R/C events had become so popular on the East Coast that the Old Time Eagles (strictly an O.T. F/F R/C Club), under the spirited guidance of "Woody" Woodman, Joe Beshar, and Art Thoms, decided to hold the events on an unofficial basis at the Nationals under the auspices of the Society of Antique Modelers (S.A.M.).

Originally scheduled to be held at Bong AFB, a quick meeting was held on Tuesday, August 7, to take advantage of the offer of the Winnebago County R/C Flyers to use their field located about eight miles from Wittman Field. Faced with a trip of 120 miles to Bong AFB, plus the fact that 90% of the modelers were available in the work hangar, it was no great problem to secure approval from the majority of the contestants to fly locally.

This turned out to be the best darn thing the group could have done, as the weather turned out fair. (Fair, compared with the copious amounts of rain and wind received up to then.) A stiff breeze did develop later in the morning,

Look who showed up at a Nats after all these years! Leo Weiss hasn't attended since 1936, but has been R/Cing in recent years.

Joe Beshar's good looking R/C Playboy Senior has a rocket climb. Design is very popular among R/C and free flight Old Timers. We've got one still in the original kit box, balsa wheels and all.

Art Thoms' Super Zomby comes gliding in after another successful flight.

Good looking Berkeley Custom Cavalier, a Ben Shereshaw design, as built by Hugh Waechter, has been seen at many O.T. contests in the New Jersey area.

We had an enjoyable visit with Bert Pond at the Oshkosh Nationals. Bert sends greetings to all the OT's. He'd like to hear from you.

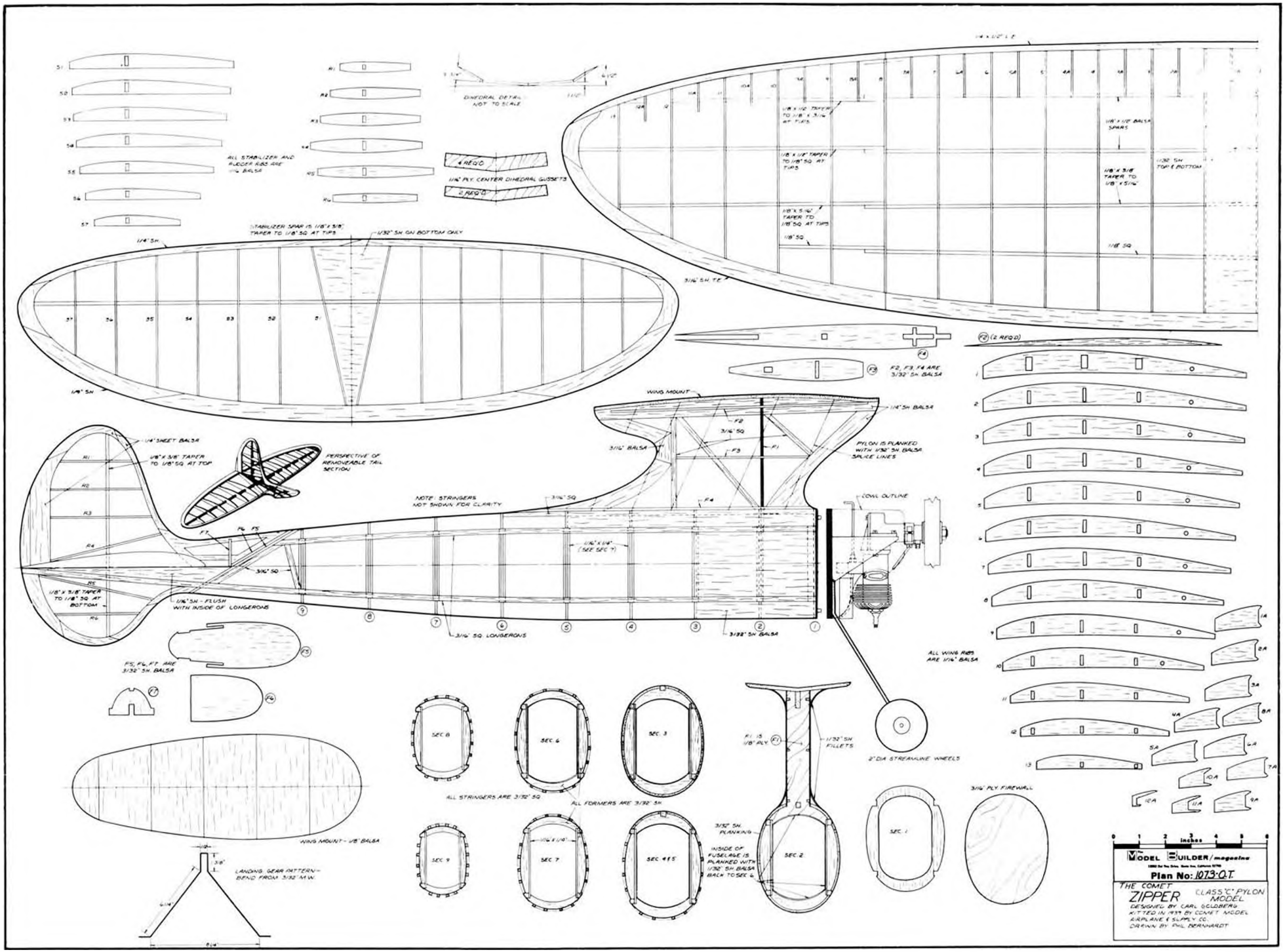
Art Thoms launches his .020 powered Request replica. This ship, originally designed by Frank Ehling, won the event.

but this only helped to generate a few of those elusive thermals.

The writer entered his New Ruler with Merco 60 power at six pounds and thought he had a pretty fair chance. What a shock to see those 4 1/2 pound Playboy Senior and Comet Sailplane models go up! One particular Playboy Senior with a Super Tigre 60 really bored a hole in the sky. You talk about your F.A.I. free flight model climb! In 20 seconds, these models were dots in the sky.

The "Armenian Air Force," headed up by Joe Beshar (pronounced Besh-r, short for Besharian) and his Lieutenant, Luke (son), showed the boys how with the aforementioned S-T powered Playboy. The most surprising thing about the old timer models is their excellent glide despite the added weight of radio gear and beefed up structures to take the added strain. Although lift was light and spotty, the Armenian Commander managed better than a ten minute flight.

Luis Rodriguez launches his Forster .29 powered Brooklyn Dodger. Luis and his friends came up from Puerto Rico for the Nats.



FULL SIZE PLANS AVAILABLE – SEE PAGE 72

How about that?

This facet of flying looks real promising for the upcoming Texaco Event in November. As promised in a previous article, results of the R/C event at the S.A.M. Annual Old Timer Championships were to be published. However, because of the disappointing turnout (only two official entries), no mention was made. Matter of fact, the event turned out to be a real fun thing with all the kibitzers getting a chance to fly Spiro Nicholaw's eight foot PB-2. Even WCN got in his licks! The writer had an ignition powered (Dennymite) Long Cabin model with problems of ignition interference. We will have more on that in subsequent issues!

This leads in to a mention of the little publicized Antique Event which featured pre-1939 models with ignition engines. Fred Collins was the only successful contestant. Powered by a ignition type Forster .99, his big Super-Buccaneer was seen buzzing at a low level most of the time. This crowd pleaser, with its low fly-byes and low rpm motor surprised most of the other contestants by registering a four minute flight. There's life in those old babies yet!

Selling Old Timer R/C free flight is going to be a tough job on the west coast with the tremendous fields available for free flight. But, with the "City Boys," like the writer, this appears to be the way to go. Matter of fact, the

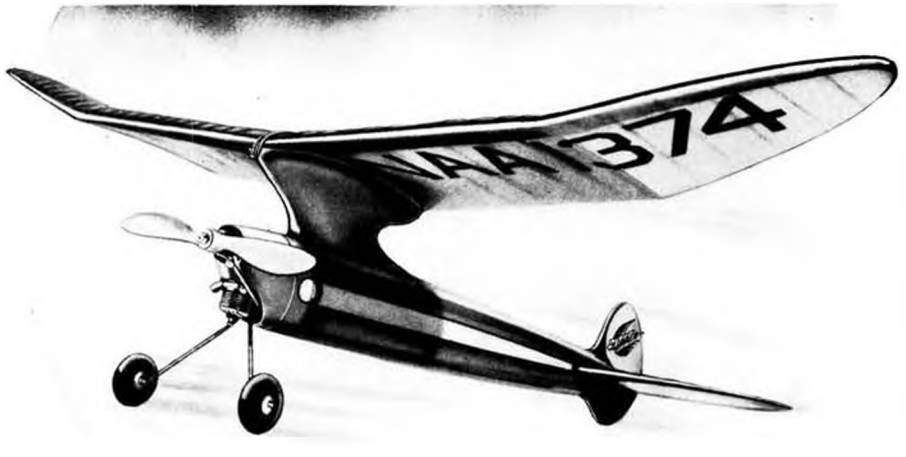
Continued on page 60

To look at 'em, you might think they had class, but we know better, right? MB's General Manager, Anita Northrop, and Mr. O. T., John Pond indulge in a formal bow. Attsa nice.

The Armenian Air Force is loose! Joe Beshar tunes Torpedo powered Zipper while Woody Woodman holds. Luke Beshar scrambles for the transmitter.

CARL GOLDBERG'S FAMOUS 'ZIPPER'

Old Timer Model of the Month

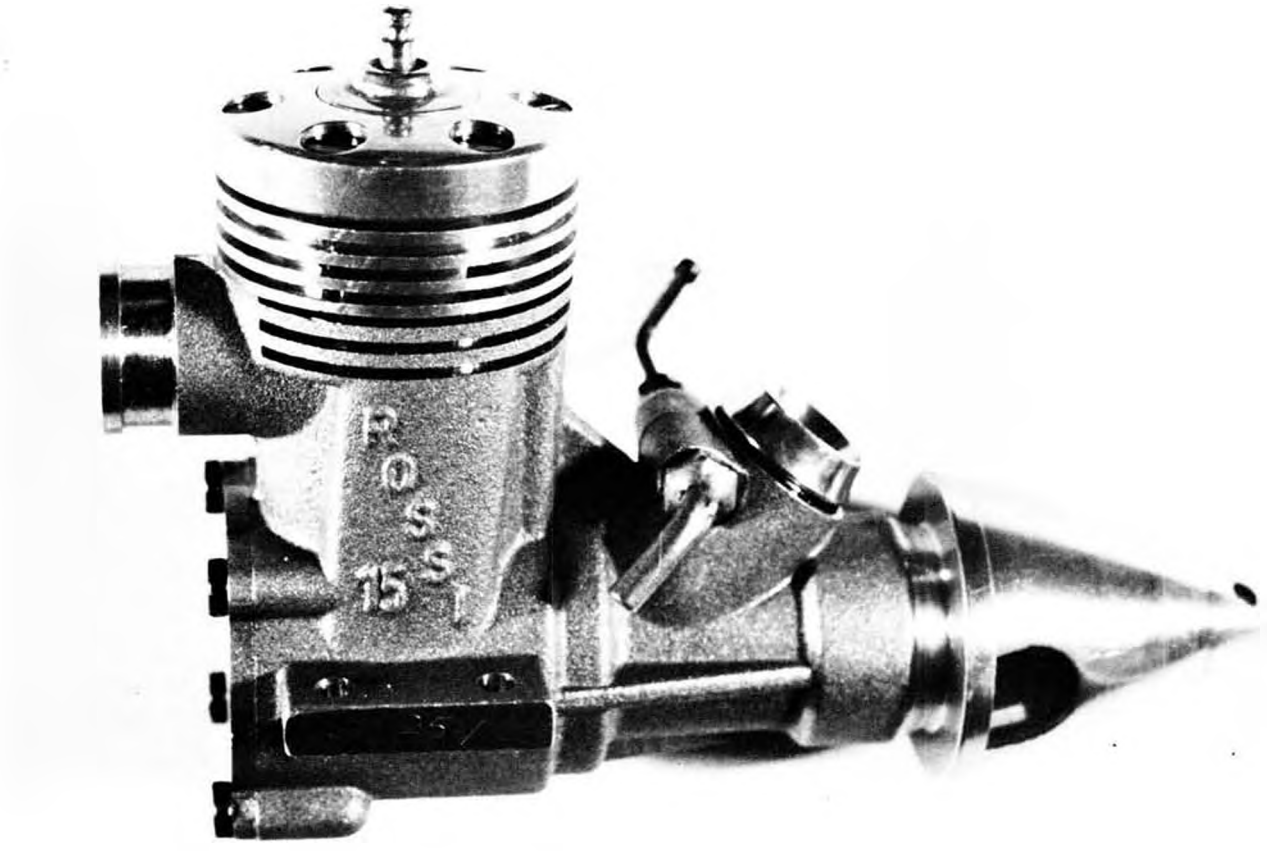


● The "handwriting on the wall" appeared in the July 1939 issue of Air Trails. Carl Goldberg began an article entitled "The 1939 Gas Model," with these words, "When the thirty-second motor run rule was adopted early in 1938, the boom of large gas models for competitive work was sounded."

Carl went on to explain the theories behind the design he had created, a model which could handle the power of a big engine that would be required in order to get as much altitude as possible with the new "short" engine run. (Can you imagine what would have happened if someone had proposed 7 seconds in those days?)

The design Carl described was, of course, his famous Zipper. Advertising for the Comet kit had already appeared, and for years to come, this pylon ship, with its high center of lateral area (a total departure from the then popular existing theory), was to completely dominate the contest scene.

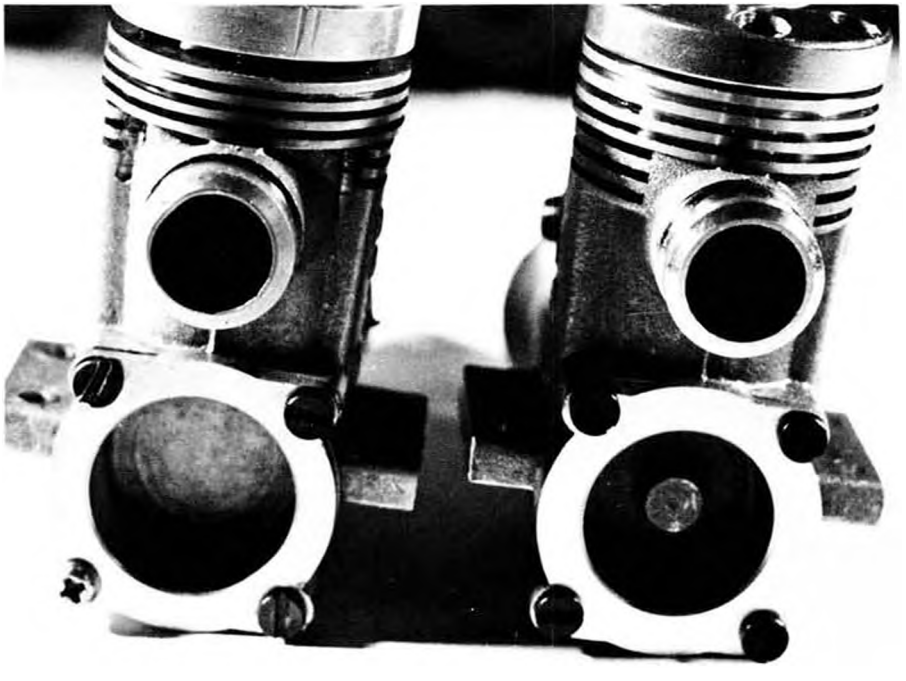
Other important design changes have come along in later years but Carl Goldberg and his Zipper represented the single most significant turning point in the history of gas powered free flight. From that time onward, the competition endurance gas model became a functional design in itself that no longer bore any but the most elementary resemblance to its man-carrying counterpart. It could also be said that the evolution was at least inevitable, if not regretable! The modeler who might focus his dissatisfaction on Carl for this should remember . . . the rule came first, Carl was only finding a way to make the most of it . . . ●



The 1973 Rossi .15, subject of Al Vela's column this month.

F/FAI

By
AL VELA

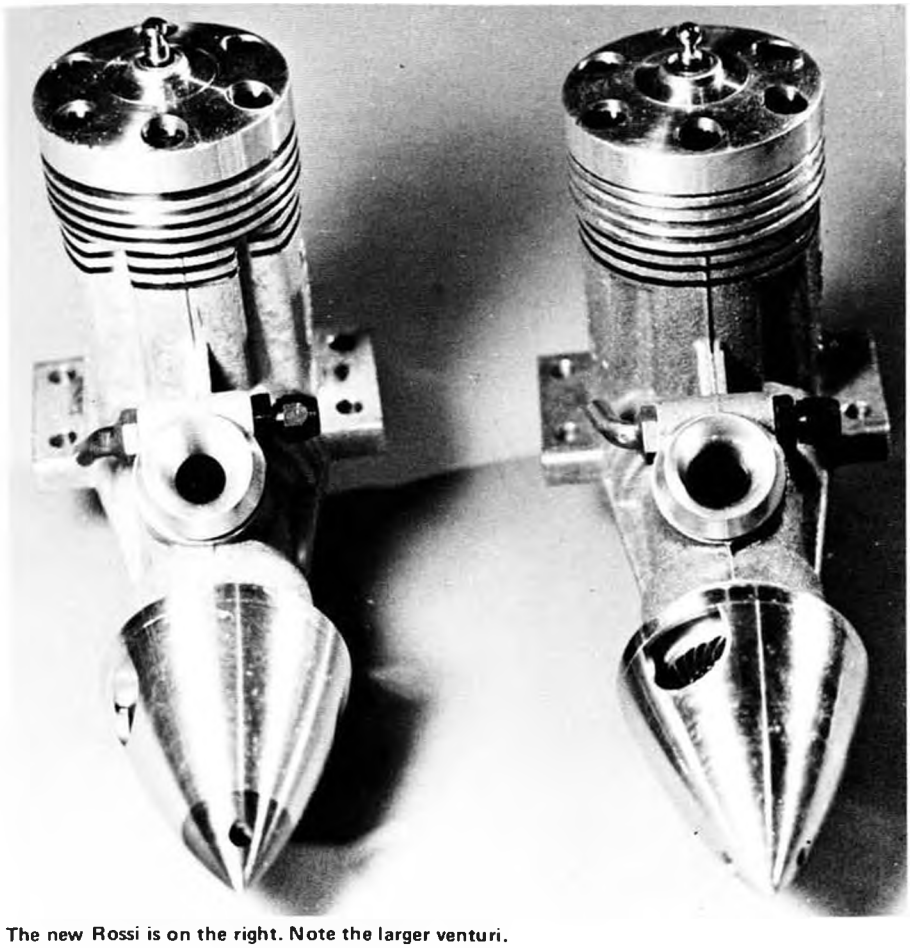


Old Rossi, on the left, compared to the 1973 model, right.

● Please excuse our absence in recent issues. We've been very busy preparing four new ships for the semi-final FAI team eliminations and also checking into a matter that should be of interest to every power flyer . . . the new Rossi 15.

As a result of numerous letters and phone calls about the Rossi, we wrote to the brothers Rossi to find out what we could about performance and availability. The engines are not available directly but must be purchased through Rossi's U.S. agent, William McGraw (Bill's Miniature Engines, Memphis, Tenn.). The company address is F. LLI. Rossi. Via Del Carabioli, 25060 Cellatica, Brescia, Italy.

A study of prop blades (l to r): Rossi, original Cox, and Al Vela's own design.



The new Rossi is on the right. Note the larger venturi.

Mr. Rossi also agreed to send us an engine for testing. In his letter, he claimed 26,000 rpm on the Cox type Bartels fiberglass prop. Our bench runs indicated 24,500. After burning out the three Rossi plugs furnished, we started using our own Cox plugs until the engine got loosened up.

Now the engine really came to life! It turned every prop we tried over 25,000. Since the Heath Thumb Tach only goes to 25,000, the needle was getting pegged on every run. We borrowed a reed tach with a wider range and came up with the following figures:

Bartels	7 x 3-1/2	26,250
Rossi	7 x 3-1/2	26,500
Vela (latest)	7 x 4	26,000
N.F.F.S.	7 x 3-1/2	26,250

(Fuel for all bench and flight tests was 75-25 K&B.)

Next we installed the Rossi in our partially new (old fuselage, new wing and stab) Super Fly for test flights at Lake Elsinore. First tests were with our own latest design 7 x 4 prop, but again, the needle on the tach was rolling better than during the bench tests! We put a short run on the Seelig timer, let go, and BANG . . . the Super Fly went up like a winged bullet . . . beautiful!

Al Vela checks the new Rossi in the only way that really counts. Ship is his "Super Fly" design. "Climb is like a winged bullet!"

We enjoyed this treat several more times, trying different props. There is no doubt that this new Rossi is more powerful, and it also seems to handle a lot nicer. The only prop that needed retrimming was the Rossi, but this could have been to match it better with the Super Fly.

All in all a wonderful little piece of engineering and machining, the best masterpiece to come from Italy since Michaelangelo. ●

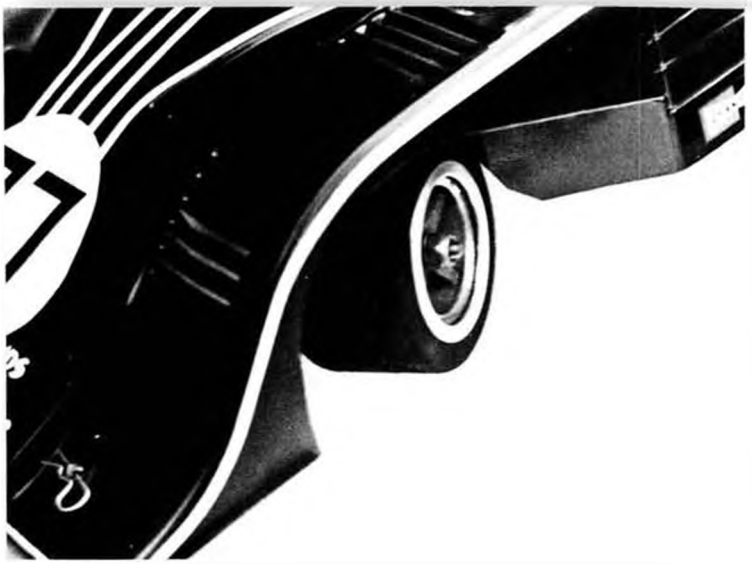


Fig. 4. Wide fron tires can be used on sports cars because of the fantastic rear tire bite.

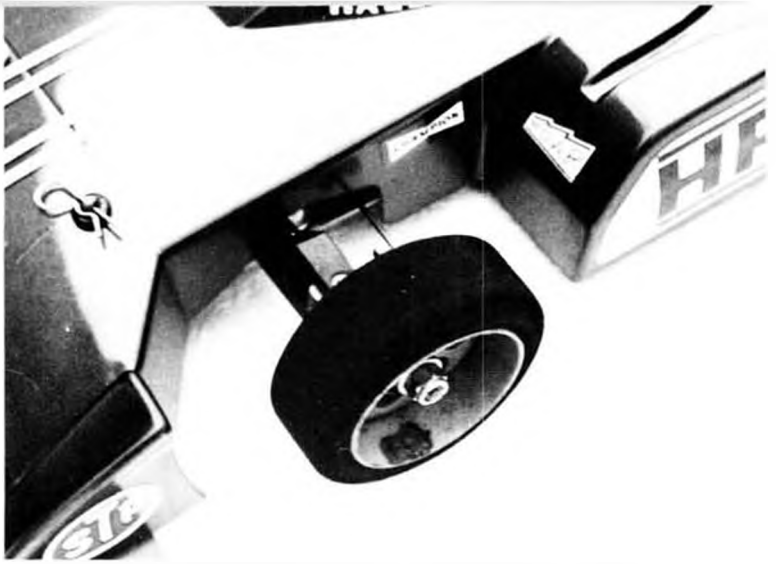


Fig. 5. The rear tire bite of Formula cars is less than the sports cars, so front bite is decreased by using narrower tires.

R/C AUTO NEWS

By CHUCK HALLUM

● Today our lesson is tires and fore-and-aft weight distribution. I hope I present the information in a manner that you can understand. There is only one curve to consult, so we'll look at it several ways to be sure you are aware of what it means.

R/C car tires have the same general characteristics as real car tires. Very probably, the R/C car tires begin to slip a little sooner because they don't have the compliance of pneumatic tires. A tire develops side force in relationship to the slip angle in which it is operating. The slip angle, defined in Figure 1, is the result of the tire's flexibility and is the angular difference between the direction the wheel is pointing and the direction it is traveling. When the front wheels are turned, the tires assume a slip angle after a short delay and develop a side force. Then the rear tires develop their slip angle and side force as the car rotates slightly. Figure 2 shows how a tire with given vertical load develops cornering force in relation to slip angle. Side force increases with slip angle to a maximum and then drops off as the tire begins to slide.

The lateral force on a pneumatic tire can exceed the vertical load on it. R/C car tires have considerably less flexibility and compliance so they may not generate the same amount of side force, but they have the same characteristics. Also a tire's lateral force capability does not increase proportionally with the weight on it. Figure 3 (this is "the" curve) for a full scale tire shows the side force capability of a tire vs. the tire load with slip angle as the parameter. The decrease of relative side force as load increases can be seen by looking at

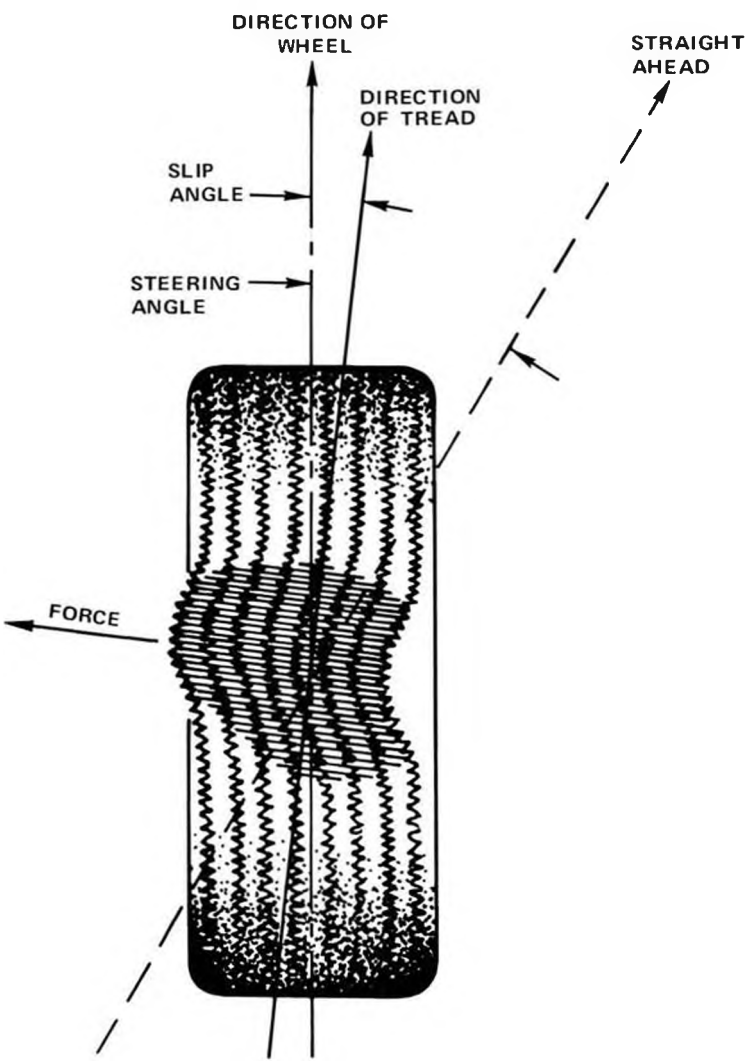


Fig. 1. Defining the concept of slip angle; the departure of a tire's direction of travel from the way it is pointing.

the 12° slip line (maybe too much for R/C cars). At a load of 400 lb. the side force is 450 lb.; but when the load is increased to 600 lb. (a 50% increase) the side force capability is only 500 lb. (a 30% increase).

Why does a lighter car corner better? We saw above that for a tire load of 600 lb. and a 12° slip angle we generated a side force of 590 lb. In this case the load is assumed to be the car weight on that wheel. Well, if the tire side force pushes the front end sideways the lateral acceleration would be (remember Newton's F=ma, or a = Force/mass).

$$\text{Side } g = \frac{\text{Force}}{\text{Weight}} = \frac{590}{600} = .983$$

Now for the lighter car the load and side force were 400 lb. and 450 lb. respectively. The lateral acceleration of the light car is;

$$\text{Side } g = \frac{\text{Force}}{\text{Weight}} = \frac{450}{400} = 1.125$$

Since the lateral acceleration of the lighter car is higher, it can turn a corner faster. It doesn't look like much, but cornering time on an R/C track can take 25 to 50% of the lap time. A little change on that much of the time can make a big difference.

So you can see that for a given tire, a lighter car has higher cornering force capability. Figure 3 and the side force trend with load also shows why wider tires (sort of the same as a lighter car) give more traction and side force.

Now we can get down to what the weight-to-side force trade-off really means. Let's say you don't have enough front bite at high speed. First we could increase the tire width. But we could also take some of the weight off the front, and the relative side force would increase. If there is any aerodynamic down force the total load on the tire will be relatively larger (on the lighter front end) than the actual weight so that cornering force is improved. So going lighter on the front helps cornering capability two ways at high speed.

You've got to watch out though, at low speed, when lightening the front. The rear end is usually a solid axle and it's pretty hard to drag the locked rear tires around a corner. For low speed front end bite you may have to transfer weight forward. Wider tires (or softer, or different compound) would also do the trick here, as well as at high speed.

The rear tire problem is a little different because of the torque input. A tire only has so much traction capability. If you use 50% of it for forward acceleration there's only 50% left for cornering force. To get maximum rear side force you have to get off the throttle (but no

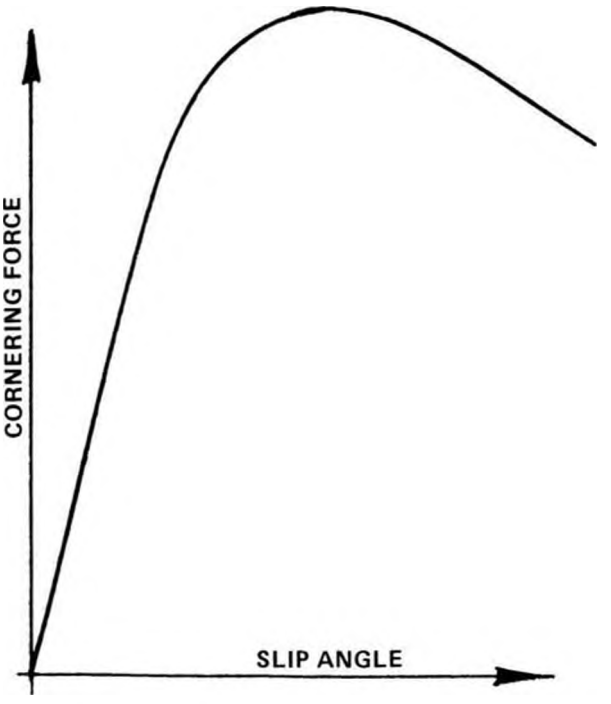


Fig. 2. Cornering capability of a tire increases with slip angle, reaches a peak and drops off . . . breaks away.

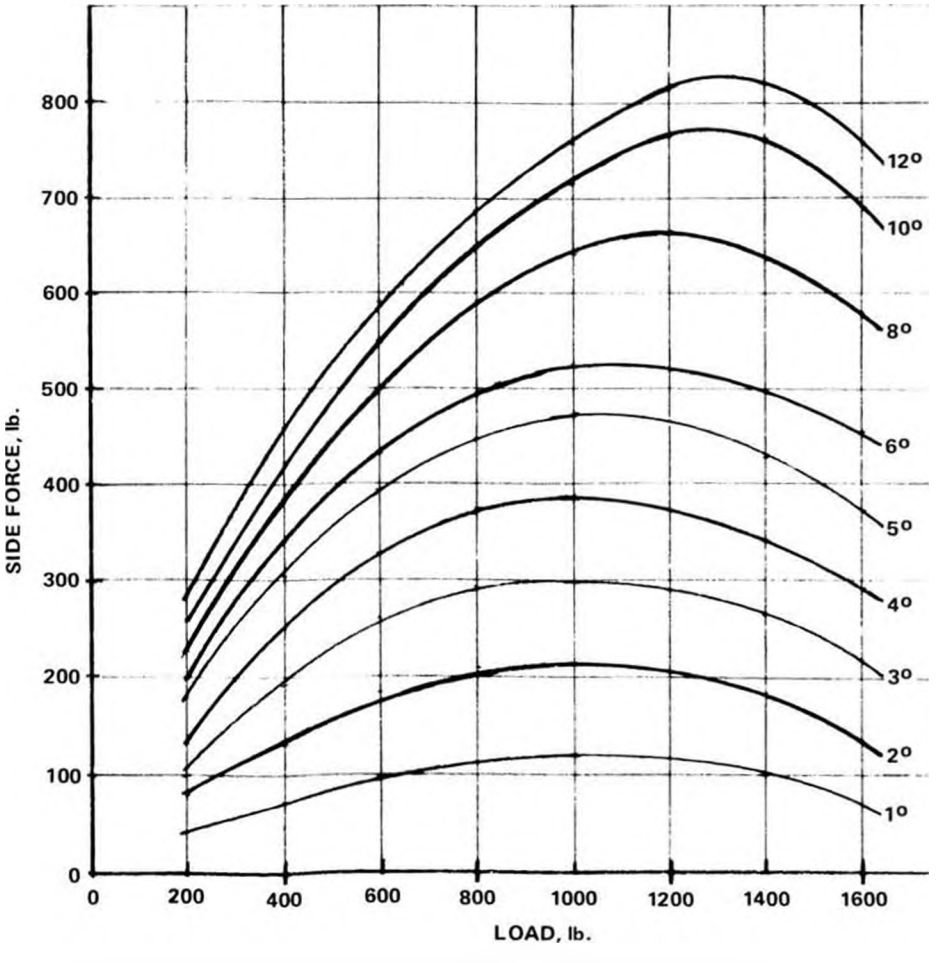


Fig. 3. For a given slip angle, a tire's cornering ability increases with the weight on it, but not in direct proportion; it peaks and falls off with further loading.

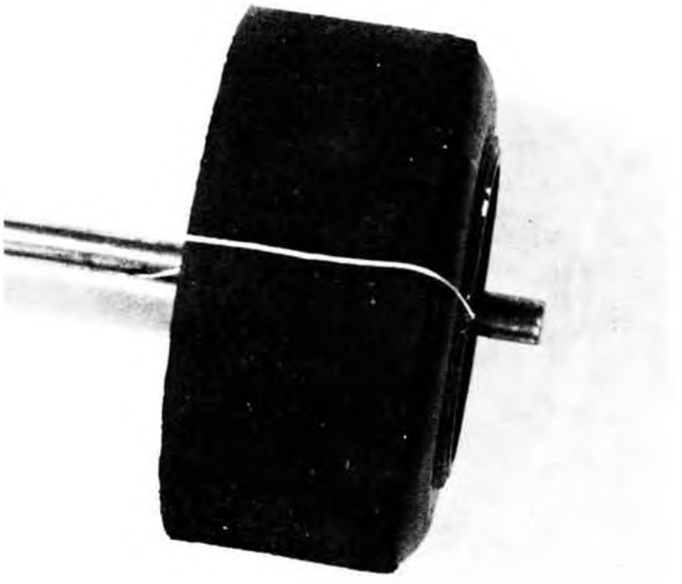


Fig. 6. A harder rubber tire than sketched in Fig. 1 shows a lower slip angle.

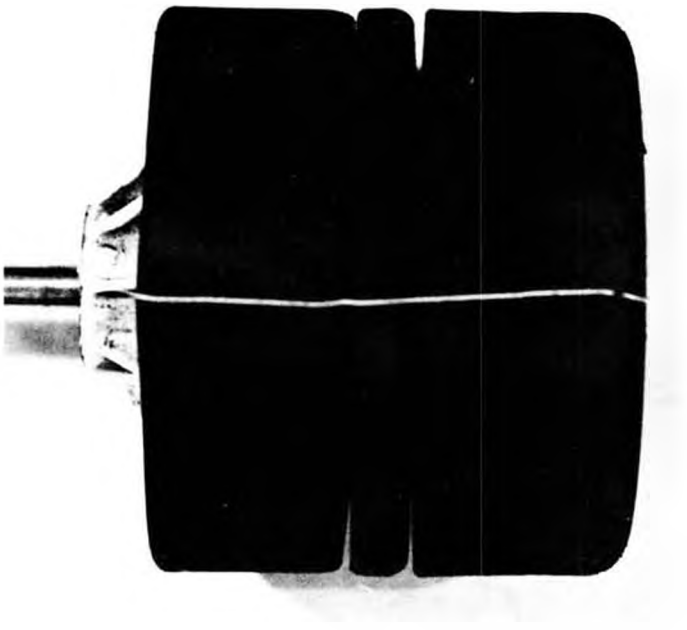


Fig. 7. Slip angle of a rear tire is pretty large, but some lightly loaded parts of the tire are sliding.

brake please). To be able to have good straight line acceleration (traction) capability at low speed we have to have weight. So at low speed we would like to put as much weight on the rear end as possible.

What happens at speed? Well, if you are off the throttle, the same thing as the front. But with power applied it's different. Let's assume the 12° slip and 400 lb. load and 450 lb. side force (or traction) capability; and use 200 lb. for forward acceleration. We have 250 lb. available for cornering. Shift the weight (not increasing the total) so we have 500 lb. on the rear giving 530 lb. force capability; again take 200 lb. for acceleration (the same) giving 330 lb. for cornering. The weight went up 25% while the cornering capability went up 32%. So under power conditions you want the weight to the rear to improve rear traction.

Chassis "tweaking" can be used to great advantage occasionally. Sometimes, as a last resort (?), twisting the chassis (or loading the suspension) to load the outside front wheel can eliminate oversteer when turning in one direction. Most people think it's only because the front tire cornering capability is decreased. Let's assume we originally had 400 lb. on each front wheel and 600 lb. load on the rears (so we can use Figure 3). During cornering we might have had a 25% weight shift giving front wheel loads of 300 lb. and 500 lb. and rear tire loads of 450 lb. and 750 lb. Now the cornering force available originally was with 12° slip for each wheel, is 375 lb. and 530 lb. (905 lb. total) for the front and 490 lb. and 670 lb. (1160 lb.) for the rears (from Figure 3).

Now let's "tweak" the chassis to load the tires to 300 lb. inside and 500 lb. outside on the front and 700 lb. inside and 500 lb. outside on the rear. For the same weight shift during cornering the front tire loads are 200 lb. and 600 lb. and the rear loads 550 lb. and 650 lb. The side force for the 12° slip angle are 275 lb. and 590 lb. (865 lb. total) on the fronts and 565 lb. and 620 lb. (1190 lb. total) on the rears. Table I summarizes all these loads and forces.

Looking at the forces in Table I we see that the total front side force did go down, but not much. And the rear side force came up a tad. So the car changed to a little more understeer. What doesn't show up is when you're on the throttle and are using up, say, 200 lb. of the rear traction capability. Originally this left only 290 lb. for side force on the inside wheel, then it would unload (begin sliding) onto the other rear tire. With the biased load there is 370 lb. for side force on the inside wheel. The inside wheel side force capability before it unloads has gone up 28%. Apparently this is where a lot of the benefit is from the tire load biasing.

The general idea of weight shifting and tire selection is to get a well balanced, driving wise, car. Pronounced understeer or oversteer is not desired at any speed regime. Many times the ultimate performance has to be lowered to allow the drivers to handle the car. Formula (Indy type) and Stock cars are a good example. Usually, on these cars, rear end bite has decreased so much that the front end side force capability has to be reduced. One way to do this is to reduce tire width. Another is to go to harder tires, or tires made of a different compound.

Figures 4 and 5 show the front end of the same chassis that was run in the Sports Car class and in the Formula class. To make the Indy car handle, narrower, harder tires had to be used.

Harder rubber has less compliance than softer rubber (of similar compound) and cannot reach the same slip angle or provide the friction coefficient of the softer rubber. To get an idea of what R/C car tires really look like under working conditions I tried a simple test. In the test I loaded the tire against a glass window then put a turning torque on the axle. At about the maximum torque condition I took photographs from under the tread to see what the static slip angle looked like. Figure I was taken this way. Figure 6 is for a harder front tire. In general the torque which is an indication of friction and static slip angle vary as expected. Soft tires the most, hard tires the least

(friction and slip angle). Figure 7 is a rear tire. The static slip angle amazed me and the turning torque was the biggest value recorded.

A quick summary is in order.

1. A tire has relatively more cornering ability (side force) when it is lightly loaded. Wider tires on a given car will give more cornering capability.

2. For the front, a weight decrease will give better cornering capability at high speed. At low speed, and for small radius corners, front weight may help pull around the locked rear end.

3. Under acceleration conditions (throttle open, medium speed cornering) rearward weight helps a little.

4. "Tweaking" the chassis (biasing the tire load) can decrease the front cornering capability and improve the rear cornering capability giving more understeer in one direction.

5. When using tires of the same rubber compound, the harder rubber usually has less traction.

Well now I guess you know why I drive lightweight slightly lower powered cars. It might be different if I could be in the car. The light weight gives the car a little better cornering ability and the lower power keeps that inside rear wheel from slipping as much.

Edo Floats . . *Continued from page 25*

Plank the sides with straight grain 1/32 sheet which has been soaked in water. Titebond works well for sheeting, and masking tape holds the sheeting in place without marking the wood. Trim and sand the edges and then plank the bottom, but do not wet this sheeting. After the bottom has been trimmed, sand the sides and bottom to a smooth finish.

Make the two inner float struts from medium hard 1/8 x 1/2 and 1/8 x 3/4. Sand to a streamlined shape. Cut a slot in the float inner side sheeting at formers 3 and 5, then position and glue the struts to the floats. Centerline to centerline distance should be 9-1/2 inches. Make sure they are parallel and square to each other. Cut out the aluminum float mounts A and B. Bend as shown, and using 5 minute epoxy, bond them to the inner float struts. After you are sure they are positioned correctly and are firmly in place, the top planking can then be added. Trim and add the nose blocks. Sand to a smooth finish and put on two coats of sanding sealer. Re-sand and cover with tissue. Apply 4 coats of 50/50 dope and thinner to all surfaces.

FIN

The fin is constructed from light 1/8 sheet with the outline laminated from four strips of light 1/32 x 1/8. A detailed description of how to laminate is in the Puss Moth article M.B. Jan. 1972. Sand the fin to a streamlined shape and cover with tissue.

FLOAT ATTACHMENT

The author's Puss Moth has detachable landing gear, which makes the float attachment easy. The wire struts plug into the fuselage and are held in place with rubber bands. If your plane has a permanent landing gear, install the floats by removing the wheels and attaching the gear to mounts "B." The front wire should then be attached to the front landing gear at the fuselage. The 3/64 wire attaches to the wing strut hook. Adjust the wire lengths to accommodate your landing gear but be sure to keep 1.5 to 2.5 degrees positive float angle. The wires are held to the floats by washers soldered on either side of mounts A and B.

FLYING

The Puss Moth should require no changes in its flight trim, assuming the extra fin is straight. The water rudders should be bent slightly to the right. The author's plane is flown with 16 strands of Pirelli and with very conservative winds (75%) it turns in flights of one minute to 1:15 off the water.

Pylon . . . . . *Continued from page 19*

this fellow from now on!! Fourth place went to Tom Pownall of FMPRA, with probably the best looking FAI airplane at the contest. Tom wasn't quite as fast as some, but his consistent flying put him in the fourth spot at the Nats.

In the FAI RC Pylon event we observed the following: There are a few of the new rules for FAI that are really good. The 80/20 methanol to castor oil is a real improvement, along with the use of a fuel shut-off. The new wheel dimension (2.25 dia.) is really practical now. However, the silencer, muffler, or tuned pipe (USA only) is a joke! The winning Bobcat was as loud as any Formula I racer at the Nats . . . if you stood on the right side of the aircraft! It was slightly quieter on the left (judges side) because the augmented exhaust stack (not a tuned pipe, but maybe a tuned exhaust extractor or stack?) exited the inverted engine and then turned aft of the firewall through the fuselage to put the exhaust outlet on the right side between the firewall and the wing . . . *clever!!* *Continued on page 56*

The Great Age of Sail . . . Lives Again in these Authentic Scale Model Kits

THEY'RE EASY TO BUILD

We know it seems unbelievable, but it's true. New techniques in the heretofore difficult rigging installation and ratline making, are simplified so that almost anyone can produce a craftsman-like job. Density selected prime balsa wood is a real pleasure to work with, and the step-by-step plan is simple and complete.

Sterling MODELS INC.
PHILA., PA. 19144, USA

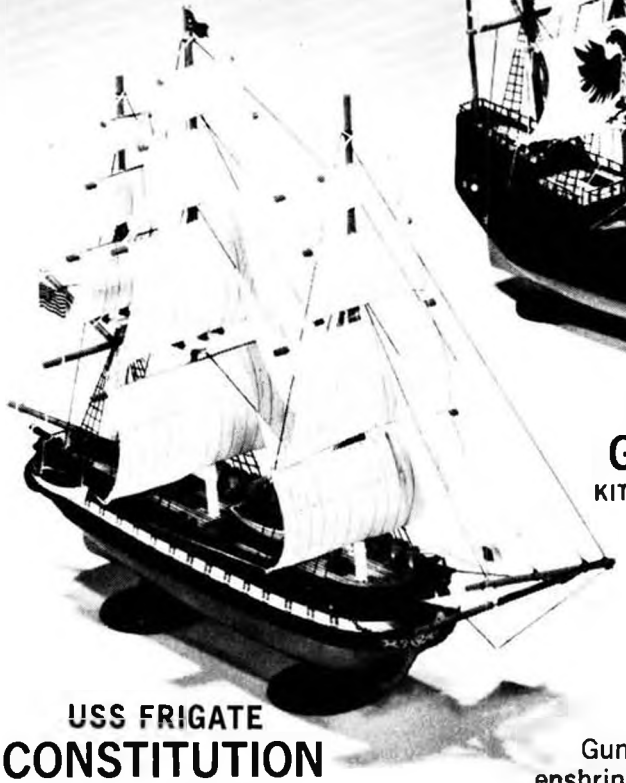
THEY'RE COMPLETE*

With machine carved hulls, that require only a little trimming and sanding. Kits include many finely detailed cast metal fittings (as required for each kit) such as: Cannon, Life Boats, Windlass, Anchors, Steering Wheel - Wheel House, Water Cask, Lights, Stern Casties, Figure head, etc. Brass Chain, Black and Tan rigging line, Printed Cloth Sails, Decals, Display Pedestals and much more . . .

* Dry Kit, paint and cement not included.

SCHOONER
BLUE NOSE
KIT G3 — Length 11¼"

SPANISH
GALLEON
KIT G1 — Length 10"



USS FRIGATE
CONSTITUTION
KIT G2 — Length 11"

THEY'RE UNIQUE

Because such amazing detail and authenticity is achieved in kits that are relatively easy to build. Plans include full size, as well as assembly drawings for each step of the way. Authentic color scheme shows on full color kit box lid.

THEY'RE HISTORIC

Plying the Spanish Main, the Galleons carried the treasures of the New World back to Spain. Outfitted with cannon they were used both as merchant men and warships . . . The Blazing Guns of the *Constitution* helped to establish our Nation. Now enshrined in Boston Harbor, it is the oldest commissioned vessel in the U.S. Navy . . . Built by Angus L. Walters the *Bluenose* was one of the finest Schooners to take the water. It came to world-wide fame racing against the *Gertrude L. Thebaud. Bluenose* captured the hearts of U.S. and Canada to such an extent, that today it is on the back of every Canadian Dime.

THEY'RE ONLY

6.95 ea.

- CARVED WOOD HULLS
- CLOTH SAILS
- CAST METAL FITTINGS

AND THEY'RE AT YOUR DEALERS NOW

GET OVER AND SEE THEM . . . BUY ALL THREE!

You don't have to **STAND OFF** *to admire this*

CITABRIA

SPECIAL THANKS

The beautiful Citabria is manufactured by one of the oldest and respected names in American Aviation, The Bellanca Corporation, who so graciously provided us with the plans, photos and details of the full size aircraft. With this illustrious lineage, it is not surprising that the Citabria is just about unbeatable as a fun plane. Primary trainer, or for Aerobatics.

CITABRIA IS FOR YOU

If you're a Sport Flier, if you have a feeling for Scale, if you love R/C*, then this is your ship. It's a beautiful machine that builds easy — goes together fast — plenty of room for any equipment — rugged for hard use — flies great — and is just about the right size.

Span 54" Area 415 sq. in. Length 36" For Engines .23 to .35 Scale: 1.61" Equals 12.0"

ABOUT THE KIT ITSELF

This kit is a real joy . . . Balsa Wood is the finest grade, density-selected and sanded to micrometer tolerance; as is the imported Finland Birch Plywood. Every part is numbered to insure fast and accurate assembly as shown on the easy step-by-step plans.

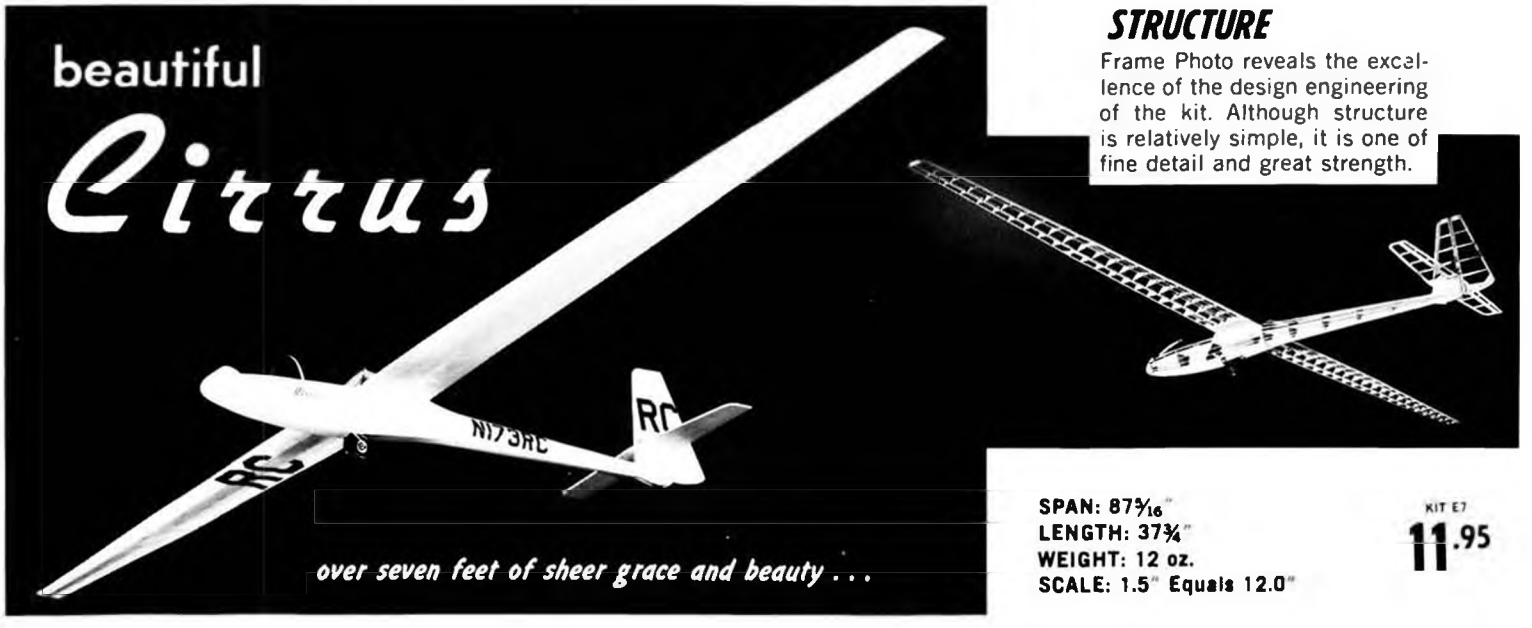
* Can be flown Control Line too — instructions on plan

THE FUSELAGE

Fuselage sides are die cut full length. Cabin sides and inner doublers are plywood as are the firewall and landing gear bulkheads. It's easily assembled with die cut balsa bulkheads, nose block, formed music wire landing gear, custom dural engine mounts, etc. Cowling and wheel pants are rugged plastic.

WING AND TAIL SURFACES

Complete wing is built on work bench without having to remove it — so it's flat and warp-free. Parts are die cut and carved. Balsa sheet cover makes for tough wing. Wing is installed like it ought to be — with dowel pins and nylon screw in wood nut-block. No unsightly rubber bands to deteriorate, break or slip. Rudder and Stab are die cut sheet for simplicity and no warp. Included is all the linkage hardware: pushrods, aileron and elevator horns, bellcranks, clevis, connectors, etc., plus giant authentic decals, plastic windows, etc., etc.



STRUCTURE

Frame Photo reveals the excellence of the design engineering of the kit. Although structure is relatively simple, it is one of fine detail and great strength.

SPAN: 87 3/16"
LENGTH: 37 3/4"
WEIGHT: 12 oz.
SCALE: 1.5" Equals 12.0"

KIT E7
11.95

GREAT FLIGHT PERFORMANCE

A real soaring machine is this model Cirrus. Eiffel 400 soaring wing section seeks out and takes full advantage of every thermal current. Can be flown Tow Line - Free Flight, Single Channel or pulse R/C for Slope and Thermal Soaring. Large Cockpit area provides ample room for R/C Equipment.

A FINE KIT

Top quality Balsa used throughout. All parts accurately die cut and numbered to insure fast accurate assembly, as shown on the detailed plan. Also included are shaped trailing edges, finished nose cone, giant clear canopy, authentic decals, full size plans with step-by-step drawings and instructions, etc.

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- ☐ Catalog of entire line of airplane control line model kits, R/C scale and trainer kits, boat model kits, accessories, etc. 25c enclosed.
- ☐ "Secrets of Model Airplane Building" including design, construction, covering, finishing, flying, adjusting, control systems, etc. 25c enclosed.
- ☐ "Secrets of Control Line and Carrier Flying" including preflight, soloing, stunting, Carrier rules and regulations, Carrier flying hints and control line installation instructions. 25c enclosed.

No checks. Only U.S. money orders or currency accepted.

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Sterling MODELS INC.
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Pylon ..... *Continued from page 19*

Anyway, as much as we like FAI Pylon, we feel that it is just a matter of time before the event will finish itself. *(If it does, how will we field a US Team for international competition? wcn)* When the Nats only draws 37 entries, the event is in real trouble. At the last FAI Pylon event held in Southern California, there were only 8 entries. It's only a matter of time! As we said, we like the event tremendously, but there are too many grey areas in the rules and many of them really aren't enforced or enforceable! *(This is a job for our FAI Rep. to handle. wcn)*

Let us tell you of a little success story! Last year at the '72 Nats, Bob Smith was prepared . . . He had everything going his way; a well seasoned Miss DARA, a top qualifying world record time, and above all, a lovely new wife, Cathy. Bob had his Lee Custom K&B doing things that were really astounding people, and he looked unbeatable. But, there was one little thing that Bob didn't take with him last year . . . that was "Ole Lady Luck." She even denied Bob the honor of completing all the final heats at the '72 Nats, as she commanded his radio to malfunction, causing Bob to crash. That was last year!

This year, Bob started the season off slower than usual by having problems that are quite common to all of us. However, since the last two races Bob Smith started his move for '73. At the Western Formula I Championships at Bakersfield, in a fly-off for first between Larry Leonard, and Dan McCan and Smith, Leonard went on to win, McCan was second and Smith crashed for third. This left Smith without an aircraft for the upcoming '73 Nats.

This being our second year in Formula I, we decided to attend the Nationals. We called Bob Smith one week before the Nats and he agreed to transport our equipment to Oshkosh in his super-equipped van. Thursday before the Nats, we carried our equipment over to Panorama City, California, and found Bob and Chuck Smith frantically working on Bob's Miss DARA. The one he was to fly at the Nats!!! We understand that the DARA was finished that afternoon, test flown that evening, and Bob and Cathy left for the Nats the next morning!

This year, Bob Smith won the Formula I Nationals with the top qualifying time, and five straight wins in the finals, and we have to say that with an airplane that had had only one flight before the event, this was some feat! Well done Bob!

It probably sounds as though Bob Smith didn't really have any competition. He probably had more competition this year than in any previous National event. With the new engines that are now available, the speeds were fantastic. There are plenty of K&B production Schnuerles available, along with the new Super-Tigre X-40, the new OPS 40 and the HP-40. These are all Schnuerle ported engines and they are now available. There were only nine seconds difference in the top to the slowest qualifying time. Fastest was Bob Smith's 1:21, slowest was R.B. Moncrief's 1:30. (It was later found that the course was a little short for the Formula I qualifying rounds). Listed below are the Formula I qualifiers and their times. If you add about 4.3 seconds to the times, they would be more realistic, due to the short course:

1.	Bob Smith	1:21
2.	Kent Nogy	1:21.9
3.	Dan McCan	1:22.2
4.	Harold Coleson	1:22.6
5.	Terry Prather	1:23
6.	D.C. May	1:24.2
7.	Ron Sheldon	1:24.7
8.	Rick Kuiper	1:25.1

9.	Ed Rankin	1:25.8
10.	Irwin Funderburk	1:26
11.	Cliff Weirick	1:26.4
12.	Tom Christopher	1:26.7
13.	Jeff Bertken	1:26.8
14.	Bob Violett	1:27.1
15.	Don Downing	1:28.3
16.	Walt Schroder	1:29.4
17.	Gregory Doe	1:29.5
18.	Joe Bridi	1:29.9
19.	Whit Stockwell	1:29.9
20.	R.B. Moncrief	1:30

There were four Miss DARAS in the top ten finishers with the top three spots going to the sexy, sleek PB Products equipment. The other DARA finished in fifth place, flown by Dan McCan. Cliff Weirick put the only Stafford Rickey Rat in the fourth slot, with the Stegall Minnows of Harold Coleson and D.C. May capturing sixth and seventh place. Ron Sheldon put the Ed Foster designed El Bandido in the eighth place position, with the beautiful mid winged Cosmic Wind of R.W. Schroder taking ninth. Tom Christopher (Attsa me!) placed the one and only Formula I Stafford designed "trick" Ole Tiger in the tenth spot. Lee Custom K&B engines were in four of the top ten aircraft, with the first two places going to the Lee-groomed K&B Schnuerles. There was one Super-Tigre in the top ten . . . that being groomed by Ron Sheldon of Northern California.

There were a couple of hard luck stories at the Nats. Ron Schorr of Southern California just missed qualifying in RC Pylon and Formula I by a few tenths of a second in both events! It's too bad that everyone didn't have at least three chances to qualify! Bob Root looked as though he had qualifying in the bag until he was the unfortunate victim of a mid-air with his beautiful Lovings Love, Root designed aircraft. Young Rick Kuiper, who really had his GMA HP-40 powered Miss DARA smoking, crashed in his first heat on takeoff in the Formula I finals. Next year Rick!!

FORMULA I Results, 1973 AMA Nationals

1.	B. Smith	PB Miss DARA	Lee K&B
2.	J. Bertken	PB Miss DARA	Lee K&B (1:23.8 fastest time)
3.	K. Nogy	PB Miss DARA	K&B Sch.
4.	C. Weirick	Stafford Rickey Rat	Theobald K&B
5.	D. McCan	PB Miss DARA	Lee K&B
6.	H. Coleson	Stegall Minnow	K&B Sch.
7.	D.C. May	Stegall Minnow	K&B Sch.
8.	R. Sheldon	Foster El Bandido	Sheldon Super Tigre
9.	R.W. Schroder	Miss Cosmic Wind	K&B Sch.
10.	T. Christopher	Stafford Ole Tiger	Lee K&B
11.	I. Funderburk	Minnow	K&B Sch.
12.	T. Prather	Minnow	Aldrich Super Tigre
13.	B. Violett	Miss Cosmic Trick	K&B Sch.
14.	D. Downing	Minnow	K&B Sch.
15.	E. Rankin	PB Miss DARA	Lee K&B
16.	J. Bridi	Minnow	K&B Sch.
17.	W. Stockwell	Minnow	K&B Sch.
18.	G. Doe	Stegall Minnow	K&B Sch.
19.	R.B. Moncrief	PB Miss DARA	K&B Sch.
20.	R. Kuiper	PB Miss DARA	HP by Aldrich

Our observations on Formula I are as follows: The scale or handicap judging was excellent, contrary to some of the comments that we heard. This is something that everyone likes to comment on, but hardly anyone wants the job of scale judging. Hank Pohlman, Pete Reed, and Frank Morosky . . . *Good job!*

At last there is a Formula I engine that you can buy at your local dealer and be competitive . . . the new K&B Schnuerle. REALLY!! Try one and you will see what we mean. The new Super-Tigre X-40 is going to be good in FAI,

and with a little work by Aldrich or Sheldon . . . Look Out!! Rick Kuiper showed us in qualifying that the HP-40 is competitive. And don't count out the old Super-Tigre. Terry Prather will put the number on you when you are least expecting it! The OPS looks good! Props are the thing now. All kinds of trick props appeared this year. Paul White and Roger Theobald were really working overtime putting them out for the West Coast fellas. This is where it is right now!!

We thought that the Nats were very exciting this year. We also realize that this event was extremely hard to put together this year. We think the Oshkosh area is ideal for pylon. With the experience gained from this event, the following Nats will be even better. Many thanks should go to Glen Spickler, Jerry and Jean Christiansen, Jack Fabbri, Howard Nupen, Ken and Loretta Hall, Jan Sakert, Dave Lane, Bob Upton, Bob Stockwell's colorful commentary on the Public Address System, and to many, many others who we know played an important part in putting on a very successful racing program for the 1973 Nationals. We can hardly wait until next year!!! ●

Hannan . . . . . *Continued from page 34*

Send a stamped envelope for more information:

Über Grafic Instruments
Box 4
Palo Alto, California 94302

PLANS AHEAD

A truly beautiful set of scale drawings arrived at the "Hangar" recently, and were the handiwork of Peter W. Westburg, 834 Seventh St. No. 6, Santa Monica, California 90403.

Drawn to a scale of 1" = 1', these masterpieces should satisfy the most nit-picking of scale modelers, as they feature a wealth of details and dimensions, not usually found on drawings of smaller scale. Subjects offered at present include aircraft by Douglas, Fokker, Davis, and General. See the Classified Ad on page 63 of this issue.

A DESIGNER MUSES

Ever wonder what motivates a model aircraft designer? Recently, we received a long letter from Frank Scott, who has been responsible for a series of models, which have appeared in Junior Aircraft Modeler, Sig Air-Modeler, Model Airplane News, and American Aircraft Modeler. In addition, Frank has long been a kite enthusiast, and has made original design contributions to that sphere of interest. Obviously, money can't be the motive, as any designer will tell you that the financial rewards are small in proportion to the time invested. But there are certain fringe benefits . . . as presented in Frank's words:

"I think we design airplanes 'cause we like it. And I think whether we acknowledge it or not, there's deep within model designers an old-time backyard Yankee tinkerer bolting together what may be the first flying contraption (never mind that thousands have flown before), and when our little ships dare too close to a tree, we are up there, Walter Mittying around, kicking an imaginary rudder-bar, and yanking a phantom joy stick.

"Too, when I get a new ship finished and it's finally trimmed out, that first really good flight, when it leaps from my hand and its wings bear it relentlessly upwards, . . . why that's when the sun breaks through the clouds and the angels sing. That can't happen with somebody else's design . . . the angels sang for HIM."

A PLACE TO FLY

Doubtless almost everyone has experienced the frustration of trying to do a little model flying fairly near home. What with the rampant "developers," freeway expansion, etc., available sites are fast disappearing. But, perhaps the most discouraging situation of all, is that some groups seem to carry an excess of "horsepower" in deciding the use of existing recreation land. Essentially, it all seems to boil down to the fact that certain "sports," such as baseball, golf, and football, are politically OK, whereas the lunatic fringe, such as model aeroplane flyers, are simply not in the running. Dave Stott, of Bridgeport, Connecticut sums it up this way:

"Getting permission for use of State land, will be like getting thermals in

Continued on page 60

Choose Heathkit 3-or 4-channel... YOU CAN HANDLE IT!

3-Channel System with 4th channel option installed

3-Channel System

Get your hands on the new Heathkit GDA-1057 Systems and you fly with dual-axis stick control, and a super slim case with comfortable adjustable hand strap. And what is initially a neat 3-channel transmitter, easily becomes a 4-channel unit with the simple addition of an optional modification kit. That way you can order 3 now, add the fourth later. Or order 4 to begin with.

The Heathkit GDA-1057 System uses the flight proven circuitry found in the popular Heathkit GD-19. The GDA-1057-1 3-Channel Transmitter comes with a 2-axis stick assembly. Add the GDA-1057-4 modification and put 3 channels on the stick with the fourth controlled by a thumb tab. The GDA-1057-1 Transmitter is available on all R/C frequencies, and is housed in a slender new case for positive one-hand action during launch or engine adjustment. Other top-flight features include all nickel-cadmium battery packs with external charging unit, vinyl-covered front panel, telescoping whip antenna, and relative power output meter that doubles as a battery-charging indicator. The new compact GDA-1057-2 3-Channel Receiver has a molded nylon case and connector block for servos and receiver battery pack. It's compatible with all Heathkit servos, and the GDA-1057-4 mod kit converts it to 4-channels too.

SPECIAL SYSTEM PRICE #1 — Order 3-Channel Transmitter, Receiver, Receiver Battery, two GDA-19-4 Standard Servos, $139.95.*

SPECIAL SYSTEM PRICE #2 — Order same system as above, substituting GDA-405-44 Miniature Servos, $149.95.*

SPECIAL SYSTEM PRICE #3 — Order same system as above, substituting GDA-505-44 Sub-miniature Servos, $149.95.*

Available on all 3 frequency bands. Specify frequency when ordering.

Kit GDA-1057-1, 3-channel transmitter, 4 lbs. **74.95***

Kit GDA-1057-4, 4-channel modification pack for both transmitter and receiver, 1 lb. **19.95***

Kit GDA-1057-2, 3-channel receiver, 1 lb. **34.95***

Kit GDA-405-3, receiver battery, 1 lb. **9.95***

Kit GDA-19-4, standard servo, 1 lb. **19.95***

Kit GDA-405-44, miniature servo, 1 lb. **24.95***

Kit GDA-505-44, sub-miniature servo, 1 lb. **24.95***

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Hannan . . . . . *Continued from page 58*

Nome, Alaska. I am so sick of the generalities the politicos have in regard to model airplanes. All the letters and articles in modeling mags will not help a bit, as they are read by modelers only. You have got to have stuff like that published in something that will be seen by the politicians. I will try to cool off my Irish with this bit of humor, by Fritz Koolhoven, in regard to his F.K. 55 mid-engine fighter. 'There is nothing as maneauverable as a politician, for like my F.K. 55, his brain is located at his C.G.'" Unquote, Dave Stott.

Anyone out there have any constructive thoughts about this?

HUMOR CORNER

Ed Lockhart must take the blame for this month's parting madness:

"Do you know about MACHing birds? They fly so fast they have to nest in trajec-trees!" ●

Plug Sparks . . *Continued from page 47*

writer is going on record to offer trophies at the upcoming Texaco Event on November 4 for the best times registered by R/C O.T. models. No Fooling! The trophies are available now! Let's hope we get a better turnout this time!

Almost forgot to give you the results of the unofficial Old Timer F/F R/C events, huh? Well, here they are (best three out of six flight):

ANTIQUE

1. Fred Collins (Super Buccaneer) 604 Sec.

CLASS AB

1. W. Woodman (Buccaneer) 478 Sec.
2. Art Thoms (Clipper) 367 Sec.

CLASS C

1. Joe Beshar (Sailplane) 1844 Sec.
2. Luke Beshar (Playboy) 1213 Sec.

SUDDEN AFTERTHOUGHT

In the first article on old timer free flight R/C models, the writer asked for comments. He is properly appreciative of all the personal letters received. The favorable comments at the Nationals were even better, but fellas! Ya missed the boat! The intent was to have "Dad" Northrop find out how popular this new phase of modeling has become and to continue giving space to this new facet of modeling. If you are going to express your appreciation, write this magazine and lettum know! After all, communication is what gets things done. We could use the national exposure! *(No sweat John . . . We don't need any convincing to keep "Plug Sparks" alive . . . it's our weakness! However, we'd still like to see those letters . . . and photos. wcn)*

In that same line, the writer is again soliciting reader opinion. After viewing the red hot climbs of the old timers with modern motors, and discussing the problem with members of the Old Time Eagles, the writer would like to propose a revision to the present tentative O.T. F/F R/C rules. As it stands, the model is completely controlled throughout the flight. To beat the power rat race that is developing, the author proposes the following rule: "During the entire motor run, the model shall be uncontrolled by radio. The motor may be stopped at any time by radio, however. Any other use of radio during the power run will void that flight." Whatcha think? Will the rule do what is intended, i.e., reduce the amount of power presently being used? Let's hear from you! ●

Mooney . . . . *Continued from page 35*

Pacific Sleek Streak ready-to-fly.

Three intentional deviations from exact scale were made and are indicated on the plans. The horizontal tail area was increased, the dihedral angle was increased, and the landing gear was lengthened so a larger propeller could be used for R.O.G. flights.

Model articles for things like this Vagabond tend to be repetitive, so for a little variation I want to expound my views on scale rules and judging.

For my background, so you can determine what credence you want to put on my opinions, I have been building models for 39 years. I have built all types of models, display, FF, CL, HL, TL, RC, and scale. I have placed several times, and won once in FF scale at the Nats. I set a National record in Clipper Cargo at Dallas. I have been a scale judge several times at the Flightmaster's annual for R/C and I have also judged stunt and combat at several U/C contests. Scale is what I like best.

I believe that modeling is fun and that it is a good hobby for anyone, but especially for kids to get into. Therefore I would like to see rules that would not discourage beginners. Basically, this requires the minimum of rules and the simplest of judging systems.

At the present time, according to my own experience, the AMA scale judging system is so complex that the most consciencious, hardest trying judge cannot do an objective job. All those numbers just serve to provide an opportunity for numerical errors and to obscure the objective of the judging which is simply to determine which model is better than the other. At several contests I've attended, after the prize awarding, errors in arithmatic have been found that

changed the results. This should never happen, but is bound to continue with these complex rules.

My suggestion for scale judging is to simply rank the models visually. Put the best model on one end of a lineup and the poorest on the other. Arrange the others according to quality in between. Now the judge can more easily be objective because he only had to compare two models at a time and there are no chances for arithmatic errors. The judging of 30 models can be done in this fashion in less than twenty minutes. With the present AMA rules it takes that long to add, multiply, and check the numbers for five models.

Once the models are lined up they simply get their position as a rank number. *(This procedure has been used in R/C pylon with complete success for around 2 years. wcn)*

Naturally, a modeler who has a long flying model likes rules that will let it win, while at the same time, a modeler who has a super scale model that does not fly too long wants the rule to favor his type of model. For almost as long as I can remember (and probably since the dawn of time), there have been complaints about rules that favor one side or type.

Therefore I believe that rules should favor neither. In the case of flying scale, FLYING and SCALE should have equal weight. To do this, the models simply need to be ranked by their flying ability. The best flying model getting first rank, or one point for flight, and the second best two points, etc. Interestingly, any kind of flight judging can be used; duration, power to glide ratio, judging for similarity to full scale realism . . . whatever.

Now you add the model's scale rank and flight rank together and the model with the lowest total wins. No one has trouble adding two simple numbers together so arithmatic has been removed as a problem.

Of course, the ranking system can easily result in ties. This is solved simply by deciding ahead of time whether the model with the best scale rank or best flight rank will take the tie. This could even be done at the contest by taking a vote from the entrants, "All those in favor of flights taking the tie raise their right hands."

This system probably won't make everyone happy, but it will certainly keep flying scale from becoming one sided. Neither the super scale ship nor the super flight ship will have an inordinate advantage. I've noticed over the years that it is these two types that tend to discourage entry in scale contests.

The really sharp builders and flyers will still win the contests and this is as it should be because they put the challenge and the motivation in front of the rest of us.

I wouldn't consider this on a National scale, but in a local club where there are only one or two experts, you can handicap them by giving a winning model one rank point. After two or three wins, the expert will have to build a new model to compete in his club contest. This will eliminate the discouraging aspect of having the same model clean up in all the club contests. ●

F/F Nats . . . *Continued from page 42*

Freeflight Nationals, but other choices are not available; make the best of it, and fly a contest. A two minute Nats? Once you are into it, making two minutes has its challenges. A lot of gas jobs were not meant for seven seconds, being nose up and at about three quarter speed as compared to their normal pattern. Little altitude, with a lot of it lost in a poor transition. Five seconds in the flyoff makes it a contest. We also had some wind, gents. Except for Saturday and Sunday, it was blowing out towards the woods, oats and shotguns. This made for close timing on fuses with some early DTs, and much lost time retrieving. The wind blew holes in the thermals, making lift spotty, hard to find. But the gentlemen flew and we had a contest. They flew with differing degrees of good grace: One extreme is Bucky, I guess, who produced points; the other is the guy who didn't fly at all, packed up and went home. In the middle we had all kinds, with mixed Max productivity, much profanity, a building of pressure and a distillation of opinion in which AMA became a four letter word. I think that the background on the choice of Oshkosh for the '73 Nats has had enough coverage . . . Chanute not being confirmed before the cutoff time, thus having to fall back on the EAA facilities and Wittman field. The final conclusion we can draw is that AMA tried well enough, but did not succeed in delivering an acceptable Freeflight Nats.

So? Tell it to your AMA District VP. Tell it to your NFFS Director. Send him a letter. Tell him how bad it was but keep talking . . . tell him what ideas you have on how to make it work, where to find that five minute field with additional landscape beyond for the seven minute fuse. Information and constructive contributions are now in

order.

Some of the Nats associated activities were in evidence. The National Free Flight Society had a combined general meeting and Symposium. The program included John Worth, the Canadian Film Board Movie "180 Is Max," the presentation of the NFFS Ten Models of the Year, including in-person interviews with Bill Hunter (Satellite); Bill Chenault (Mini Pearl), and proxy presentation of the Korda Wake as an Oldtimer event by Charley Sotich; Bob White's Unlimited "Twin Fin;" Don Chancey's "Bo Weevil" and a sales representative from the Mattell Corporation, who patiently sat through all of our meeting dealing with the Nats problems, and made a very interesting and informative presentation on the "Superstar." Bob Meuser ran this part of the meeting, as well as the technical section, in which his and Doc Anderson's papers were presented. My feeling was that it was a good meeting. It had better attendance (I guess 225) than former years, and it produced a resolution, confirmed by vigorous acclamation, of thumbs-down on Oshkosh as a Nats site.

Unofficial events were there again. Old Timers were very well represented, although having to fly in a vicious wind which took them off the field in a few seconds. I watched Sal Taibi chase his model, running like an elk (not quite like an antelope). If I can run that well when I'm his age, well . . .

Payload, Cargo and Helicopter were conducted by the NFFS, with John Thornhill in charge. And something new (old): Rubber Speed. A two hundred foot course with a one hundred foot wide gate. First place was over 50 mph, second over 40 mph. A good crowd, and a fair entry, promising for next year and for the revival of this interesting event.

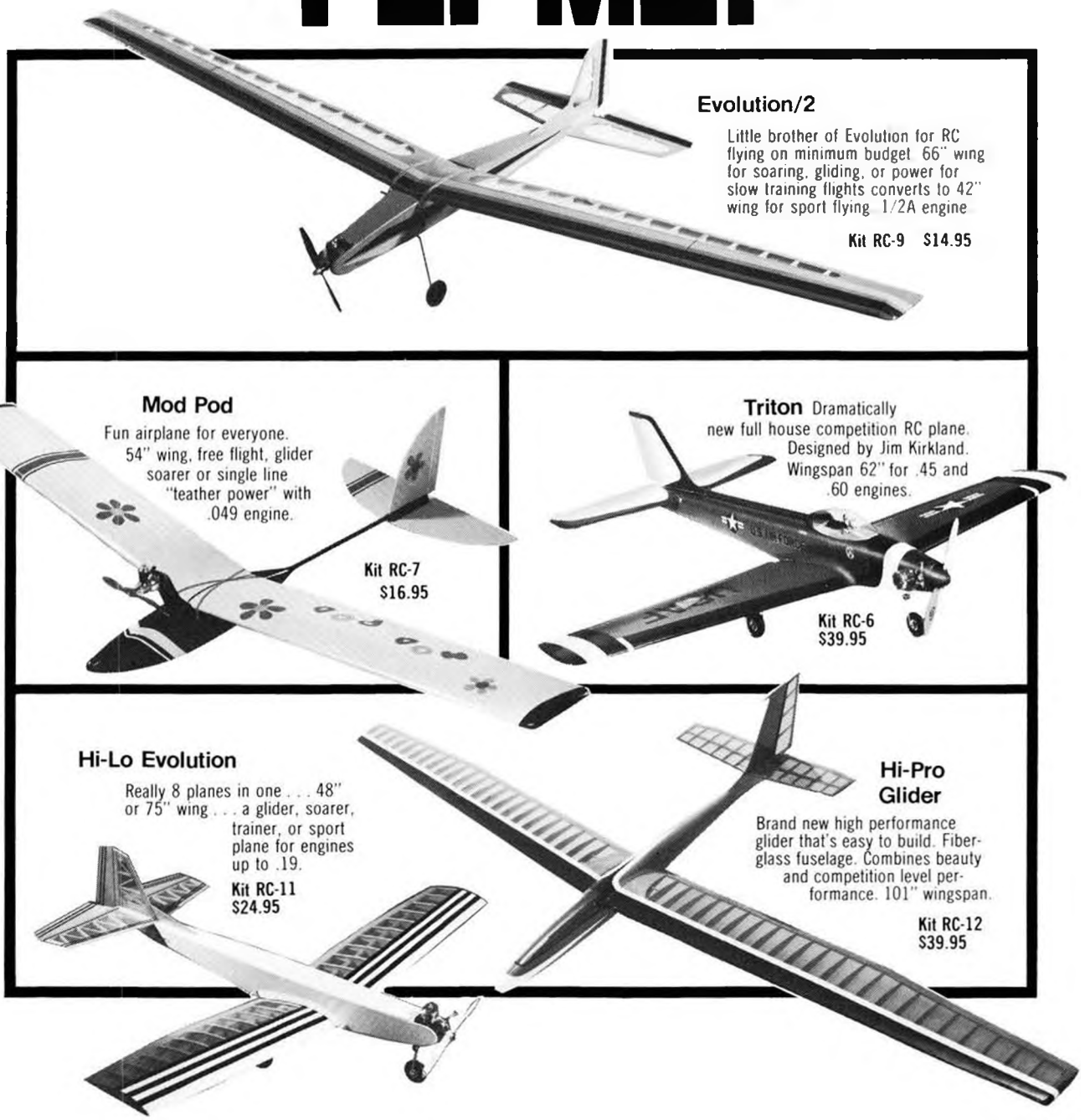
Incidentally, it suited the site. The NFFS has posted a one hundred dollar prize for the first model to do one hundred miles per hour in a sanctioned competition. Bob Meuser, not to be outdone, has offered 500 for the first 500 mph.

One subject which is now in focus, which formerly has had only regional currency, is trail bikes. Trail bikes are noisey, make dust, move fast, add to the clutter of the field, and carry some of the bad connotations which some people have about motorcycles in general. They offer a danger which we have not had at the Nats before: they can run into us, they can prejudice the neighborhood against our use of the field or adjoining terrain . . . "Look at that creep with his long hair roaring around on that motorcycle" . . . However, travel is broadening. I had the opportunity to fly at Taft at the West Coast Free Flight Championships three times. The first year I chased in a car (a rented Ford LTD). The only one on the field to use a car, I felt like an outcast. I drove around the downwind side of the activity, zigzagging around the brush. I usually got there late, and some guy on a bike had my ship and his own already heading back with it when I met him half way. The next year I smashed everything up before the first official on the first day, so it was leisure time . . . Time to try riding one of those bikes. The next year I rented one, learned to run it with one hand (gotta have an automatic gear shift, dad) and was able to retrieve just fine. I was even able to get to the Kitty Litter plant in time to see the ship come in, and for anyone who has tried it, that ain't bad. Then, when the rented bike sprung a leak from a spill (it happens), I borrowed someone's Honda BOMB, with a few more levers . . . and horses . . . (way over my head). The ship was going down behind a rise, so I accelerated . . . right over the handlebars onto my shoulder and hip. The blood clot on the hip stayed two months, was the size of a 22 strand unlimited motor in a Glad Bag, and cost a 15 dollar prescription to dissolve. So Trail Bikes have their problems. Not the least of which is acceptance by us guys back east, and a discipline about their use on our more confined flying areas.

The trail bike precipitated the problem with the farmers at Oshkosh. The farmers had been alerted by visits from AMA before the Nats. Retrieving by foot had been going on for some time without complaint. Then someone took his trail bike through a field of young oats . . . Shotguns. Impoundment. Confrontation with AMA delegation, and peace without trail bikes. Same old story, gents: some idiot queered it for us. We have to control the idiots. I have this general encouragement for those of us who are not yet acclimated to the phenomenon TRAIL BIKES: They are a very valid tool in the pursuit of the Max, specially if you are flying FAI rounds, or multiple AMA events. Try to understand the beast and make it work for you. If you are running a contest where the countryside is in crops, spell out the ground rules for the benefit of

Continued on page 64

EVERY DUMAS RC MODEL SAYS "FLY ME!"



Evolution/2

Little brother of Evolution for RC flying on minimum budget. 66" wing for soaring, gliding, or power for slow training flights converts to 42" wing for sport flying. 1/2A engine.

Kit RC-9 $14.95

Mod Pod

Fun airplane for everyone. 54" wing, free flight, glider soarer or single line "teather power" with .049 engine.

Kit RC-7 $16.95

Triton Dramatically new full house competition RC plane. Designed by Jim Kirkland. Wingspan 62" for .45 and .60 engines.

Kit RC-6 $39.95

Hi-Lo Evolution

Really 8 planes in one . . . 48" or 75" wing . . . a glider, soarer, trainer, or sport plane for engines up to .19.

Kit RC-11 $24.95

Hi-Pro Glider

Brand new high performance glider that's easy to build. Fiberglass fuselage. Combines beauty and competition level performance. 101" wingspan.

Kit RC-12 $39.95

Dumas kits are famous for their clear, easy-to-follow plans. Equally important, each kit comes with cleanly die-cut parts of high quality balsa, plywood, hardwood, and other materials.

If your bag is sport, training or gliding, you probably already know how popular our Hi-Lo Evolution and Evolution/2 kits are. Our fun plane . . . Mod Pod . . . can't be matched for simple, inexpensive flying: RC, free flight, or "teather power"!

dumas planes

Whether you build and fly for fun or competition, the Dumas Planes line of RC models has a kit designed for your enjoyment and pride.

See your hobby dealer or send 25¢ for our catalog of model plane and boat kits.

Dumas Products, Inc.,
790 South Park Avenue, Tucson, Arizona 85719

F/F Nats . . . *Continued from page 62*

both the farmer and the modeler. Make the trail bike a part of your planning. If it becomes an unplanned intrusion it can cost you your flying site.

The next Nats?

AMA is in a study period. Gathering data, proposals, recommendations. It has heard all the gripes, knows a few more which you don't know about, probably. Wants constructive contributions. Oshkosh is a fading memory, but a hard and well learned lesson. A lesson in the strategy and timing of securing Nats sites. And of the relative value of the quality of the site for flying versus its available support facilities.

At this writing, Chanute field in Illinois is the best candidate for the '74 Nats site which AMA has under consideration. Discussions are presently involved with obtaining additional support from the Air Force beyond the simple offer to make the site available. In addition, Pentagon approval is still to be obtained. As a freeflight site, Chanute is rated only slightly better than Glenview, which was a three minute field at best.

I view this as exactly the right time to bring the Freeflight Nats site requirements into focus, the first requirement of which is that it be a five minute field in the average poor weather typical for the area; in addition, that the quality of freeflight competition is of first importance, coming before mandatory combination with Control Line and Radio Control; and that the social aspects, or the creature comfort problems, not be determining considerations but be provided for after the requirements for the quality of the site and the quality of the competition are secured. Anything less is less than a Freeflight Nationals. ●

NFFS . . . . . *Continued from page 41*

NFFS PLANS & PUBLICATIONS

Jack Shafer, P.O. Box 322, Dallas, Oregon 97338, is handling all back issues of the Digest, Symposium Reports, and plans of the ten models of the year, plus other plans of interest to the free flighter. He also has T-shirts, rubber bird stamps, and other goodies. Write to him and enclose a stamped self addressed envelope for a list with prices.

NEXT MONTH

News about the National Free Flight Society Scholarship Program. News about a possible membership price break for Clubs. Plus information about a new membership list from NFFS. ●

Soaring . . . . . *Continued from page 28*

of the best Original Design Sailplane. This gorgeous model of 12'-7" span was equipped with spoilers and had slight polyhedral. An all-flying horizontal stab and all-flying rudder gave it good manuverability for its size. The fuselage was longer than usual, resulting in a long tail moment. It was difficult to believe that except for a brief contact with modeling as a child, Mr. Mrlik has been building for just over a year. The color scheme of the model was red and white which was used on both wing and fuselage. The fuselage was his own fiberglass production for which he carved the plug, did the lay-up, etc. -a really beautiful job! Otto Heithecker, as previously mentioned, won Best Technical Achievement with his spoiler/flap hookup.

Scale this year was dominated by the team of Hugh Stock and Preston Estep Jr., Flying Soarcraft's Glasflugel 604 and Kestrel 19 models, they finished first and second, with Jim Simpson's Nimbus third. The Chicago Scalemasters provided the 3 judges; Bill Naylor, Tom Englesby and Ron Connor.

One of the many high points of the Soaring Nationals was the banquet held on the second night of the contest. Attended by most contestants, it was held in the Lewis University cafeteria and ably MC'd by contest Registrar John Neilson. Along with good food, the contestants were greeted to a drawing of no less than 72 door prizes! Every table had one or two winners, and we were treated to the frequent spectacle of people who had just said "I never win anything" giving a happy grin as their number was called. The big prizes were a winch built by a S.O.A.R. member, an EK Logitrol radio presented by the manufacturer, and a year's supply of Midwest balsa won by a lady who we hope will start building sailplanes and

put it to good use. All eyes longingly passed over the Schwinn 10 speed bicycle which was to be awarded to the winner of the contest, which, appropriately enough, turned out to be Jeff Mrlik. Many people chatted with Linda Porter, without being fully aware that she was the sole scorekeeper in the contest, figuring everybody's score and having the winners of all events a little over one hour after the end of the contest . . . Linda, you're appreciated!

After the banquet, the Lewis University dormitory facilities, where many of the flyers roomed for the contest, provided an unusual opportunity for contestants to get together and exchange ideas and information. Many bull sessions lasted well into the night. This too, is an important part of the Nats.

The Nats serves modelers on many levels; competition with the best fliers in the country, exchange of information and ideas, the gradual realization on the part of all that there are more regional similarities than differences in this sport, and the making of good friends from all parts of the country. All these things were well taken care of by this years R/C Soaring Nationals. ●

C/L . . . . . . *Continued from page 23*

WINNERS

A Speed

JR.	Max Snyder	147.85 MPH
SR.	Mike Langlois	158.53
OP.	Bartley-Garner-Huff	168.95

FAI Speed

JR.	Glen Vasant	112.98 MPH
SR.	Scott Snyder	118.92
OP.	Newton-Nightingale-Beatty	136.90

B Speed

JR.	Mike Bussell	171.03 MPH
SR.	Brian Pardue	160.65
OP.	John Shannon	188.01

B Proto

JR.	Mike Bussell	138.35 MPH
SR.	Mike Langlois	142.40
OP.	Tom Upton	156.59

C Speed

JR.	Max Snyder	160.08 MPH
SR.	Mike Langlois	181.93
OP.	Bartley-Garner-Huff	188.60

Jet Speed

(Jr.-Sr.-Op.) Myrle Hoyt 189.80 MPH

SCALE

There were 42 scale planes entered, (11 Juniors, 5 Seniors, and 26 Open), but flying was difficult due to the strong wind. Many planes crashed because they were unable to fly safely in the wind. Bill Harney won Open with his magnificent Jap Zero.

WINNERS

JR.	William Hoover	291 Pts.
SR.	Mark Bauer	260
OP.	Bill Harney	512

CARRIER

The runway was covered with 'em! Total of 142 planes entered. Strongest Club representation was by the Detroit Carrier Team which won many of the events. There were 11 Juniors, 33 Seniors, and 98 Open, with the majority in the Profile Class.

WINNERS

Class I

JR.	Robert Sawicki	521.36 Pts.
SR.	Mark Dombrowski	514.83
OP.	Richard Sawicki	572.71

Class II

JR.	Robert Sawicki	509.84 Pts.
SR.	Paul Tegel	465.28
OP.	Terry Herron	591.02

Profile

JR.	Robert Dombrowski	311.65 Pts.
SR.	Jeff Rein	324.13
OP.	Harry Higley	376.23

I was unable to observe the other control-line events in action, but here are some Statistics: There were 131 entered in Scale Racing, 82 in Rat Race, 107 in Stunt, 166 in Combat, and 24 (Open only) in FAI Team Racing.

WINNERS

Scale Racing

JR.	Douglas Harris	7:18.0
SR.	John Huntsverge	8:31.2
OP.	Ulous Harris	6:50.4

Rat Race

JR.	Jeff Ackerman	5:22.5
SR.	Howard Hess	5:34.0
OP.	John Ballard	4:53.2

Combat

JR.	Bill Vojslavek	
SR.	J. Green	
OP.	Mark Pattie	

FAI

OP.	Albritton-Joy Team	4:43.65

We'll have a complete run-down, with photos, on C/L Stunt by Bart Klapinski in the next issue. ●

Counter . . . . . *Continued from page 7*

Operating on a 9 volt transistor battery, the completely assembled unit has a telescoping probe which allows the user to obtain readings from hard-to-get-at places. With vastly improved sensitivity, the tach sells for $29.95.

Royal is also adding the Royal Hiness line of glow engines. Twelve models will be available in late December or early January. There are standard and R/C .09 engines for $14.45 and $17.95, standard and R/C .20 engines for $19.95 and $23.45, a .20 R/C car engine for $23.45, and a .20 marine engine for $29.95. Other engines, not priced as yet, will include .22 standard and R/C, .40 standard and R/C twin (!), and .60 standard and R/C twin(!). All engines have twin ball bearings except the .09's, which are rear bearing only.

More on these when they arrive.

* * *

Flyline Models, 10643 Ashby Place, Fairfax, Virginia 22030, has announced the first of a series of 3/4 and 1 inch scale model kits from the Classis era of aviation. The 22-1/2 inch span Velie Monocoupe can be flown with rubber, CO_2, or .010 power, costs $4.95. Next to be released is a 34-1/2 inch span Bellanca Skyrocket for .020 power and small multi or pulse radios. Ship will also do nicely on rubber power. All kits will include top quality printed balsa, scale wheels, decals, and super detail plans by Herb Clukey.

* * *

Victor Model Products, Box 2168 Dept. A, Downey, California 90242, is adding an "M" Class (50-800) boat to its line of R/C sailing yachts. In keeping with the construction method used on its 25 3/4 inch long beginner's Snipe and 36/600 Tahoe 600, the hull of the "M" Class "Victor" is of preformed high impact plastic. Dacron sails are

completely finished. The deck, keel, hatch, and bulkheads are also completely formed, trimmed and ready for easy and fast assembly. Price is expected to be around $60 and deliveries should start by the time this is published. The company also manufactures a sail control unit based on non-surplus components.

* * *

By the time this is released, M&P Design Group will have a new address and phone number. Try P.O. Box 338, Lone Oak, Texas 75453 . . . (214) 662-3211 and see what happens!

The company offers "Nemesis II," "Mongoose," and "Midi Pearl" for your modeling fancy.

Nemisis II is a fast combat ship for .35 engines, price $7.98. The Howard Rush design won the 1970 Nats Open Championship, and took 1, 2, 3 in Open this year.

The Mongoose is a slow combat job for .15 to .23 engines, price $7.98. Designed by Dick Mathis, it's also suitable for training and sport stunt.

The Midi-Pearl is an A/B-FAI free flight for .15 to .33 engines, price $15.98. Designed by Bill Chenault, it won four (4) first places at the 1973 Nationals.

All three kits include wood selected for weight and proper grain for warp and crash resistance. All parts are completely cut, with die-cut ribs and all other parts machine shaped.

Workbench . . . *Continued from page 5*

called scale for Fred Hulen, Kansas City, Mo., who won with his near-perfect Spitfire.

"He carved his own mold and made his own fiberglass fuselage . . . and messed with retracts until he had exact compound geometry of retraction as on the original. On test flight, the gears were driven through the *top* of the wing . . . a lot of foam showing . . . was

repaired Friday night before the contest by Fred and myself at Jim Fosgate's house.

"He did not get full points on retracts though . . . the judge did not think he raised or lowered them at exactly the right point in takeoff and landing *(! wcn)*. His score was also cut down on flaps for the same ambiguous reasoning *(!! wcn)*.

"How about credit for this win?"

Thanks,
Charley Reed"

Credit given, and hereby acknowledged. Please also note our astonishment at the judging. This fortifies our previous comments about scale operations counting as maneuvers.

Along with this month's Peanut Scale construction article, Walt Mooney sent us the following letter in which he comments on the Sport versus AMA Scale debate which we generated a few months back:

"Dear Bill: In your latest issue there are a lot of comments about Sport Scale versus AMA Scale, particularly with respect to RC. I feel there has been a basic error made in ever coming up with Sport Scale. The objective, as I see it, was to encourage scale flying in greater numbers by eliminating the discouraging aspects of the super scale ships that were capable of winning every time they were entered. What is really going to happen is that AMA Scale, except possibly at the Nats for a few years, will be killed.

"What should have been done was a changing of the AMA rules. Several approaches could be taken . . . for instance, one or more of the following:

Allow a Nats winner to compete only in one additional Nats contest. Modify the rules so that neither Scale points nor aerobatic points are so devastating.

"Basically, Sport Scale is wrong because it is trying to encourage mediocracy. In spite of this, the sharp guys will keep building more and more detailed models for sport scale. They will keep winning and giving headaches to the rule makers who think they can improve things in this world by penalizing the good guys.

"Two sets of scale rules for RC is a bummer . . . what is needed is a better, simpler set of AMA rules. Maybe the AMA rules will die quickly and the Sport Scale rules can be modified to take the best aspects of both systems."

Walt has also added a very interesting discussion on the end of his Piper Vagabond construction article in which he expounds his views on scale rules and judging. Be sure to read this, because we feel it has the makings for the best possible solution to flying (R/C, U/C, or F/F) scale scoring that we've seen. In fact, we wish he would put it in the form of an official proposal.

The fidelity/workmanship judging portion of Walt's suggestion is particularly interesting, since the method has been used very successfully in Formula I R/C Pylon racing for a couple of years. As an experiment, Tom Laurie and your editor pre-judged the 9 scale entries in the 1973 LSF Tournament in this fashion. It took about 15 minutes. We then went into the full AMA scoring system on each scale entry, which took a total of 3 hours. Comparing notes afterwards, we found that only one plane was two notches higher than our original visual judging put it, the actual point difference being minimal. All the rest remained the same!

THINGS TO DO

The Flightmasters' Fifth Annual Jumbo Scale meet is coming up on December 9, 1973. Last year, Peanut Scale was added to this affair, and will be included again this year. The contest is scheduled from 8:00 AM to 12 noon, and has been moved to Lake Elsinore.

Jumbo rules (it's rubber power, of course) specify 48 inch minimum span for monoplanes and 36 inch minimum span for multi-wing planes. Model must have a pilot in proper position, and must R.O.G. (20 seconds minimum flight duration to qualify). Maximum flight time cannot exceed scale points. Average two best flights out of six officials. No folding props permitted, but free-wheelers are O.K. Models using D.T. fuse must have snuffer tubes. Three-views required. Scale judging after flying. Entry fee $2.00.

Peanut rules specify 13 inch maximum span, best flight out of four officials (20 seconds minimum to qualify), hand launch, Mooney type judging after flying, three-views required Entry fee is $1.00.

Every year we swear we'll have a model to enter for the next contest . . . maybe this year . . .

* * *

The Association of Greater Chicago Radio Control Clubs is holding the first Modeling Expo for the Chicago area on Nov. 10 and 11 at Lewis University in Lockport, Illinois, site of the 1973 National R/C Soaring Championships.

The Expo will consist of 17,000 sq. ft. of under-roof display area, over 50 acres of land for model airplane demonstrations and a track for model cars.

As a result of publicity and advertising, over 10,000 visitors are expected to attend the two day affair. The location is about 45 minutes from the Chicago Loop.

The EAA will have a static display and possibly a minor fly-in. Area radio control airplane, car, and boat clubs have been contracted for static and live displays.

Manufacturers, wholesalers, hobby shops are invited to contact Dave Gauer, 832-C Colonial Drive, Wheeling, Ill. 60090, (312) 537-4068, or Rick Glos, 721 Autumn Drive, Roselle, Illinois 60172, (312) 894-9468.

BULLETIN BOARD

Orange County Electronics, Orange, California, a manufacturer of printed circuit boards, including P.C. boards used by the R/C industry, has purchased a controlling interest in RS Systems, and has retained Bob Novak, founder of RS Systems, as President. The firm is also associated with Model Dynamics, manufacturer of the Gryphon and Shriek kits. One of its principals, Roy Womack Jr., has been appointed Vice-President and General Manager.

The reorganization will provide RS Systems financial stability, corporate management, and production and quality control to supplement the existing capabilities. It will also assure that RS Systems will continue to retain a prominent position in the R/C industry.

* * *

Lou Ross, builder of the famous Ross Twins, and the powerful new "Black Demon" single cylinder 61 (which was in 5 of the 20 top qualifiers' airplanes in this year's Class C Pattern Expert Category at the Nationals), has separated from Northfield Precision Instrument Corporation.

All correspondance should now be directed to Ross Power Inc., 577 Waukena Ave., Oceanside, New York, 11572. Lou can be reached by phone at (516) 536-8743. ●

R/C Nats . . *Continued from page 13*

FAI R/C Scale team for 1974! Next was Walt Moucha with his very familiar Fly Baby. Last year's winner Frank (Bud) Nosen placed a new P-47D in 5th. Sixth was Charles Nelson with a Curtiss OX-5 engine that looked real enough to run.

Bob Wischer placed 7th with his 1972 W/C Emeraude, Claude McCullough was in 8th with his super-sanitary Shinn which placed 6th last year. Bill Bertrand at least had something new and different, an Aeronca LB low wing which was very realistic in performance . . . 9th. And in 10th place was Bob Underwood's Bonzo, which proved that *some* scale ships can even fly at slower-than-scale speeds!

With few exceptions, it would seem that scale entries were on the conservative side . . . possible contestants were thinking in terms of the FAI team selection, and were staying away from the more spectacular . . . and harder to fly . . . multi-engined, multi-winged designs. Another factor could be the wind. If they were expecting what they got . . . winds across the runway that sometimes gusted to 25 knots . . . you could hardly disagree with the favored configuration.

One ship, though it did not score highly, certainly made an impression on the spectators . . . at least those who weren't deaf! Bob Boucher's Fournier R-4 was powered by one of his Astro Flite company's electric motors. We

think he'll have to add a small electric horn. . . . just so you can hear the darn thing when it's coming at you!

There have been and will be lots of varied comments about the Oshkosh Nationals. From the R/C contestant's point of view, we'd say it wasn't too bad. The runway was a heck of a lot smoother than the one at Glenview. On the other hand, it was a helluva long walk from the pits to the ready box. And it *is* possible to do something about the weather . . . don't be there!

Judging was apparently quite satisfactory. We say "apparently" because neither Bob Upton, Deputy Chief Judge, nor your editor, as Chief Judge, heard any complaints. Matter of fact, many contestants took the time to tell us it was excellent. When you consider that most people speak up only when they don't like something, that ain't too bad.

From the R/C officials point of view, Oshkosh had its problems. There wasn't an open restaurant to be found at 7:00 AM within reasonable driving distance of the college dormitories. At the field, the runway was subject to closing on 5 minutes notice to make it available for full size aircraft. This was the reason for the far-off pit areas and for the difficulty we had in getting back and forth to the two sites. Still, in retrospect, it wasn't all that bad . . . most of the problems somehow related to the weather. When it was nice, it was beautiful . . . expecially to Californians who enjoyed seeing blue sky and white clouds . . . but when it was bad, it was BAD! Being in lake country, the Oshkosh weather situation may be stimulating to human life because of its frequent changes, but the odds of getting 7 or 8 days in a row of good modeling weather are too low.

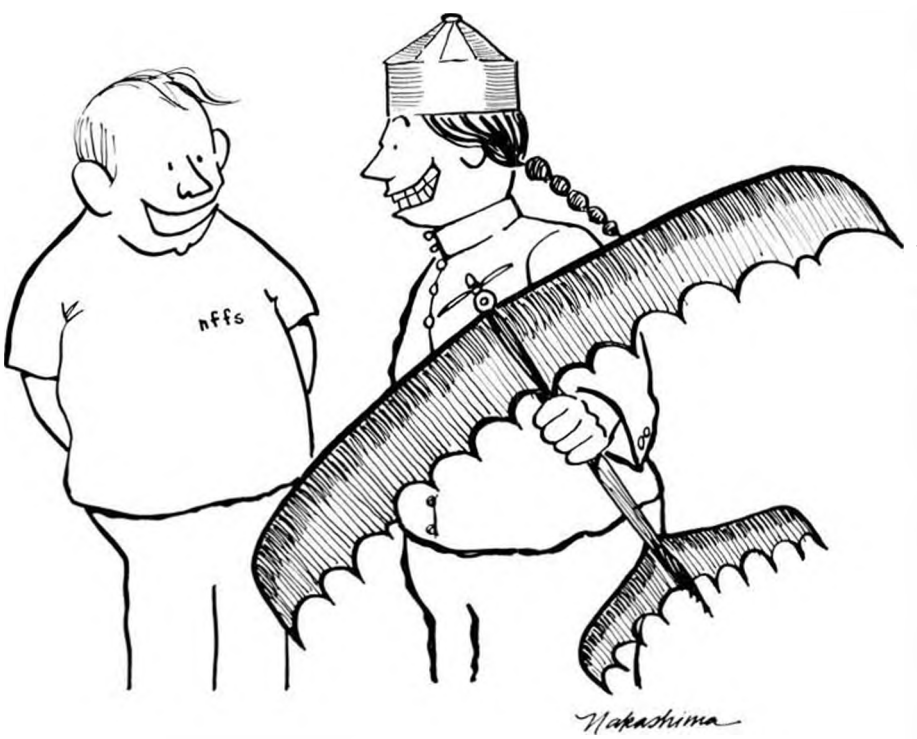
After 25 years of Navy help and then hanging way out on a limb late into the year before knowing when and where it would happen, we were damn lucky to have a Nationals at all in 1973. Let's hope that everyone, AMA officials, Nats officials, and contestants . . . have learned enough from this year's experiences to get it all together in 1974.

One last comment on the 1973 Nationals . . . may it always be remembered as *the* Oshkosh Nationals . . . singular.

and now . . . back to Frank Schwartz

It is expected that the Ross single .61 engine will make it's debut in some strength at the Nationals, and if they perform half as well as Jim Whitley's does, they will be nothing short of sensational. Early figures indicate that they will pull like crazy and turn better than the so-called "best" engines around. Prices will not be in the cheapie range, but to have the best and finest engine available, as well as the fact that it is made here in the U.S. and parts are available when needed . . . and at reasonable prices . . . makes it probably the most desirable engine yet offered. Overall price for the engine is in the very low hundred dollar range . . . which is what you would expect to pay in this day and age for what appears to be the best going. If that isn't enough, it will drop right in where your Webra was; mounting holes, carburetor linkage and length are the same. Production models have a Perry Carburetor and my first glimpses of the engines . . . both in natural metal and black anodized got the old ticker pounding . . . this is one I've got to have! Incidentally, Lou Ross has separated from Northfield Precision. His address is now: Ross Power Inc., 577 Waukena Ave., Oceanside, N.Y. 11572, Phone (516) 536-8743.

Cliff Weirick, Kraft Systems, says that many flyers think their radios fail for no particular reason at all . . . and he confirms my comments last month on batteries. However, he says to take a good look at your throttle linkage . . . many flyers (and probably more than you think) have their throttle servo jammed against the limits on high motor. Perhaps you don't realize that when this throttle servo is jammed against the stops on high or low motor, the drain on the power system (your poor overworked nicads) goes sky high . . . all's well for a couple of flights, then all of a sudden the set goes dead and you crash . . . you blame it on the radio and actually you caused it and didn't



"Original yes, beautiful no."

know it. Check your installation and make sure the servo doesn't have to maintain itself in a constant "push" or "pull" attitude and you can save your plane, as well as lots of grief.

I've done some checking. Here's how it works: If you have a three-wire system (no center tap on the power pack), you can make a harness or in-line jumper and break one lead and put a 0-200 milliamp meter in series with the broken line. Then plug in the servo and note the resting current. In my Pro-Line the resting current per servo was just about 20 milliamperes per servo. When the servo was in transit the current went to about 120 milliamperes. I found right off that when my throttle servo was set in low motor, and I had low motor trim, that the servo was pulling against the stop and the drain on the battery pack by way of the servo was continuously 120 plus milliamperes! All that was needed was one complete turn in the throttle arm clevis and the situation was remedied. A crash due to battery exhaustion was averted right on the bench. Then I found the rudder push rod was binding at one extreme of travel with the same high drain condition and corrected that, too. As long as I've been around R/C and that is a good 25 years or more, I find there is still much to learn.

(Here's one more thing to learn, Frank. There is a much quicker and easier way to find out if your throttle . . . or any . . . servo is bound up. With the radio on and the servo operated to either extreme position, such as "hi-hi" or "low-low," if it is bound up it will buzz. If you have any doubts about your hearing ability, put your hand on the critter . . . it will be vibrating . . . straining at the leash, so to speak. It's quite noticeable. Along the same line, high battery drain will also come from a partially bound up linkage. This could be harder to discover because the stupid servo doesn't know enough to quit when it's being overworked . . . but it does groan a bit! When you've completed a linkage to any moving part of your plane, boat, car, or whatever . . . operate the servo a few times and listen to the sound of the gears as the output moves back and forth. Now, disconnect the linkage at the servo, and operate it again . . . back and forth. Does it move faster? Does the whirring of the gears sound higher in tone? Is the servo moving easy when unhooked, and groaning when doing its job? If it does, you've got a battery-draining bind in the linkage. Find it and get rid of it now! Don't be like the car salesman who says "That

problem will go away after you've run it a while." End of lesson. wcn)

We recently asked for ideas on how to finish foam model components. Here is part of a letter from Jim Newman, of Midwest Products Co.

"Our Chipmunk which was displayed at Toledo and N.Y. was finished by sanding overall with No. 400 paper, nicks filled with spackle. A filler was mixed by thinning Elmer's White Glue 50/50 with water and loaded with talcum until just still brushable. In our case, the model required three coats . . . lightly sanded between each. Using Martin Senour Aerosol Auto Enamel, we applied two coats each of the red, white, and blue, with white applied first. Be careful in masking, it is better to remove some of the tape's tack by pulling between finger and thumb, as it is so easy to lift some of the white. *NOTHING* seems to adhere to foam too well . . . except dirt! No 'rubbing out' was done. But for display, a couple of coats of wax polish was applied."

About the time this column goes to press, Pro-Line electronics will have in production their "Challenger" series of equipment. Prior to this time, Pro-Line has only offered their one series. Sport flyers who might have opted for one of the top radios were often motivated by price considerations to choose other brands. Now this "Challenger" series offers all the reliability and careful attention to engineering in a lesser priced set suitable for sport or contest work. The transmitter is in the standard Pro-Line white case. Sticks are the new D&R molded nylon open gimbal sticks.

This outfit is a five channel set; has switch for retracts, and a button for "Buddy Box" operation. The transmitter RF deck is the same unit used in their best set and the decoder has I.C.'s for fast assembly and cost savings. The receiver is packaged in a matching white case and again, although it has Pro-Line's excellent F.E.T. front end, the decoder uses two I.C.'s to save money and assembly costs. Servos are the PLS-15 size.

Your editor predicts that since this set offers all the advanced technological features of it's big brother, in addition to Pro-Line's reliability, that it will be well received and very popular. Pro-Line appeared to be the choice of a majority of the C-Expert contestants at this years Nats, along with Kraft. I cornered Jim Fosgate, the modest genius behind all the Pro-Line products and secured the photos in this article, as well as the preceding information . . . my first scoop! Complete set lists for $379.95 and deliveries have begun.

Also saw prototypes of the Sullivan electric starter due for "soon" production. Molded nylon front housing (no gear box) in bright yellow with the drive cup bolted to the shaft (Hooray!). Has surgical rubber drive insert and there are no gears or gear boxes to possibly give trouble. A built on squeeze switch works well, and the little beauty is priced at only $27.95.

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