

# KEITH-RIDER R1 "SUZY"

By TOM NALLEN . . . A special and unique event had its first Nationals showing in Dayton, Ohio. This was the winner of what we hope will become a classic, the Thompson Trophy Race for rubber scale.

• Do you ever get the feeling that in rubber powered flying scale we've painted ourselves into a corner? A corner where the high wing is king . . . and the monarchy perpetuates itself. Variety, they say, is the spice of life. But where have all the low-wings gone, the mid- and shoulder-wings? Sadly, as far as competition is concerned, we find many of our most popular and attractive designs on the endangered species list. What a shame that the classic "Hurricane" or the graceful Travel Air "Mystery Ship" usually fly in lonely skies with the beauty of the flight often witnessed by only the builder and perhaps a few of his friends. We've short-changed ourselves with our own rules.

However, in the past few seasons, a new battle arena for the offbeat types has opened up in several scale hotbeds around the country. In the spotlight are models of the memorable National Air Racers of 1930-1939, regarded by many as the Nobles of aviation's Golden Age. The improvement of the breed has been dramatic over only a couple of years, and the performance of some of these pylon polisher models is nothing short of sensational. For example, Ralph Kuenz's Folkerts SK2 has flown O.O.S., and Royall Moore, known in some circles as the sixth Granville brother, has a Gee Bee Z which has flown over 70 seconds at a contest.

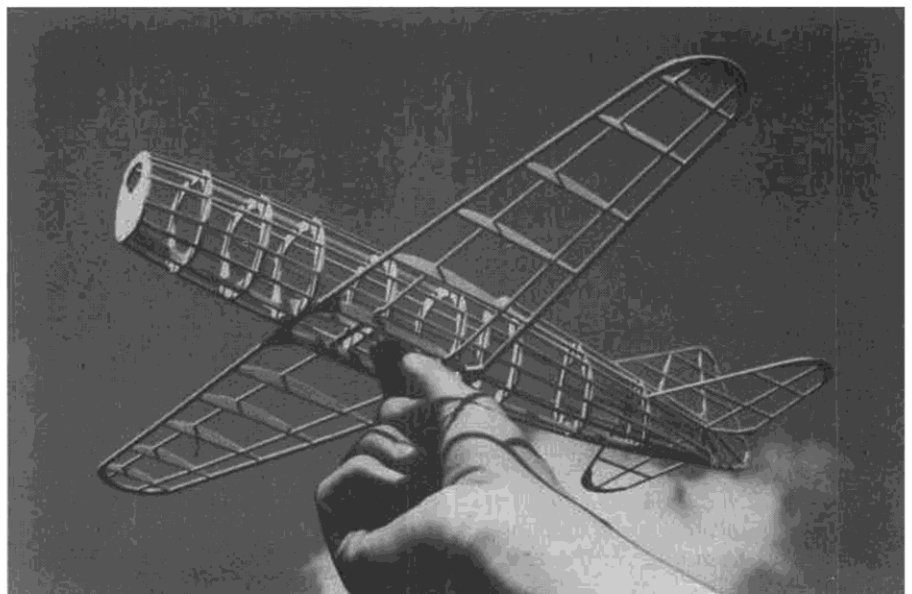
In these raceplane events, the simultaneously mass launched models fly, not against the stopwatch, but are pitted against each other in head-to-head,

sudden-death confrontation. Flyers dwindle steadily, as the first plane down in each flight or lap is erased from further competition, until finally a winner (or survivor) stands alone.

An equalizer is provided by the requirement that rubber motors cannot be changed once the event has begun. The suspense of this round-type, lap-by-lap flying is heightened by the prospect of suddenly finding one's self among the spectators via the blown motor route. The psyche jobs and gamesmanship rampant along the starting line have brought about some of the most remarkably wretched launches ever witnessed

anywhere . . . like straight down. But watching those colorful racers zoom away at the starter's signal and fight it out, rounding those imaginary pylons, is a scale buff's delight.

Raceplane competition has become a regular feature whenever those intrepid wingsters of the Flying Aces Club gather. Most of my racing experience has been at the F.A.C. 'drome in Durham, Connecticut, where the rules evolved by CD's Dave Stott and Bob Thompson are used. These rules, as related by Stott, follow this article. If your group would like to try a little throttle bending, I urge your consideration of them, because



Key to good performance in scale rubber free flight is well designed structure that is light in weight and has the strength to endure repeated windings and occasional premature landings.

these rules have proven eminently workable.

A Thompson Trophy Race was run as an unofficial event at the 1976 Nationals, sponsored by the Erie Model Aircraft Association of Pennsylvania. The checked flag was ably handled by the genial veteran, Vic Didelot. Twelve speedy birdmen from around the nation assembled on the tarmac at Wright-Patterson AFB, where a light early evening breeze made for almost ideal racing conditions. All entries were replicas of full size Thompson Trophy racers.

The first heat saw Ralph Kuenz's Folkerts SK2, plagued with motor trouble from the start, touch down early. Texan George Meyers' Folkerts was out next, victim of a Panhandle launch, probably brought on by instant mental replays of the Kuenz speedster's demise.

In the following heat, the Californian, Clarence Mather's very light Caudron 460 was scratched. His Renault engine sputtered and seemed to lose power. Next out went Chuck Schobloher, flying the Chester "Jeep", defeated in his attempt to pack in that extra turn before the launch. His motor blew, tattering his fuselage and shattering his hopes.

The helmeted and goggled Bob Thompson, Connecticut speed merchant, had trickier Pirelli which let go in the air, ending the day for his gold and black



Photo by Chris Clemens

**A Thompson Trophy Race heat gets under way at the '76 Nats (l to r): Ken Johnson and Jeep (behind Thompson), Bob Thompson and Laird 'Solution', Tom Nallen and 'Suzy', and Ralph Kuenz and Folkerts. A.F. Museum in background.**

Laird "Solution". Russ Brown, the Ohio circle burner, dropped out as he suddenly encountered trim problems and his Chester "Goon" spun into the grass early, as the racing went on.

In the next lap, Jack Russ, who previously had put up several long flights with his tiny, super-light Folkerts, stalled following the launch and rolled in. Up to this time he had appeared to be the favorite. Massachusetts' sixteen year

old Mickey Nallen had been hanging in there gamely, but his trim silver Keith-Rider "San Francisco I" was first down on the next lap.

Still in the running were Ken Johnson's "Jeep", New Jersey's Don Garafalow with his smooth flying Caudron, Pres Bruning's Racewings "Chambermaid", and the Keith-Rider R1 "Suzy" presented here. They came together on the starting line to battle it out for the gold in the final heat.

**KEES.**  
 NATIONAL AIR RACES IN VIEW. 1974-75  
 Pylon Racing Planes - KINERT VOL III  
 REED GOLDBERGER OF AIR VANGUARD - E.A.A.

WHEEL MOUNTS 1/16" SNT.  
 DIBEDRAL BREAK  
 RACE NO. & REGISTRATION SHOWN TOP. THEY ARE OPPOSITE ON BOTTOM.

7/8" DIBEDRAL EACH TIP

ALL SPARS 1/16" SQ.  
 1/16" SNT. FULL RIB DEPTH

LEADING EDGE 1/16" SQ.  
 TRAILING EDGE 1/16" X 1/8"

ALL FORMERS & RIBS 1/16" SNT

WING SADDLE (-2) OF 1/16" SNT.

WING FILLETS 2 OF BOND PAPER

TISSUE COVER, ATTACH AT X-X, GRAB OVER L.E.

STAB. SHIMMED FOR OPTIMUM TRIM IN TESTING. OPENING THEN COVERED.

STAB. / FIN / RUDDER CONSTRUCTED OF 1/16"

\*NOTE: ALL PARTS BALSA UNLESS OTHERWISE NOTED

WING SADDLE (-2) OF 1/16" SNT.

TAIL RIBBED W/ 2-4 LB. TEST MONOFILAMENT

COLOR SCHEME:  
 OVERALL - MED. BLUE (INC. FIN TRIM, RUDDER & REG NO.'S, SPINNER & YELLOW INTAKE & EXHAUST PORTS, TIRES - BLACK. LG. STRUTS & WHEEL HRS - SILVER

CUT OUT AFTER FUSE COMPLETE

WING SADDLE

RAKING

WING SADDLE

TOP & BOTTOM KEELS / TAIL POST OF 1/16" SNT.

SPRIN 17-5/8" LENGTH 16-1/8"

WHEEL HALVES 1/4" SNT.

7-1/2" DIA. REED USED ON ORIGINAL. SHIP TRIMMED TO FLY LEFT W/ APPROX. 2" LEFT THRUST & 5" DOWNTHrust. LEFT WING WASHED IN SLIGHTLY, TWEAK LEFT RUDDER TO FINE-TUNE LEFT CURVE

DESIGNED & DRAWN BY: TOM NALLEN  
 TRACED FOR M.A.C. BY: S.A. PAULSON

**Rudy Kling's KEITH-RIDER R1**  
 1936 NATIONAL AIR RACES

**MODEL BUILDER** magazine  
 621 W. MARKET/HEALTH ST.  
 COSTA MESA, CALIF 92627  
 Plan No: 3773



**The '76 Nats Thompson Trophy gang (l to r): standing; Ralph Kuenz - Folkerts "Toots", Chuck Schobloher - Chester 'Special', George Meyer - Folkerts 'Toots', Jack Russ - Folkerts 'Toots', Bob Thompson - Laird 'Solution', Tom Nallen - Keith-Rider 'Suzy', and Clarence Mather - Caudron. Kneeling; Ken Johnson - Chester 'Jeep', Pres Bruning - 'Chambermaid', Mick Nallen - 'San Francisco I', Russ Brown - Chester 'Goon', and Don Garafalow - Caudron. A great turn out for an exciting event. Let's hope it is continued at future Nats.**

The dark blue Caudron balked at the launch, and never finding her groove, flew out of the money. With the remaining flyers nerves and rubber wearing thin, the succeeding lap found Johnson's "Jeep", although climbing to great altitude and gliding well, settling for third place. The "Chambermaid" and "Suzy" were left to race to the checker.

In the final lap, a 54 second flight was barely good enough for "Suzy" to flash in the winner, Bruning's ship close behind. So ended the first National Thompson Trophy race for models, and it was great fun.

If you think you'd like to try your hand at turning a pylon, here is a representation of the Keith-Rider RI as campaigned in 1936 by Rudy Kling. The RI, spanning only 21 ft., was powered by a 544 cu. in. Menasco engine rated at 260 HP. It began it's racing life, as the all silver "San Francisco I", and from 1939 through 1936, was among the most consistent money winners on the air racing scene. During her racing life, she served as the mount of such noted speed flyers as Ray Moore, Steve Wittman and Roger Don Rae. After her acquisition by Kling in 1935, the RI, now wearing blue and yellow colors and dubbed "Suzy", garnered a world light-plane closed course speed record as she scorched a 100 kilometer course in Denver at 228 MPH. "Suzy" passed from the racing ranks at Los Angeles in 1936 when Kling, having been beaten by the Caudron of Detroyat for the Greve Trophy, rolled her into a ball while swerving to avoid a movie truck that came into his path during his landing. Kling escaped serious injury and went on to achieve even greater acclaim for his work aboard the Folkerts aircraft.

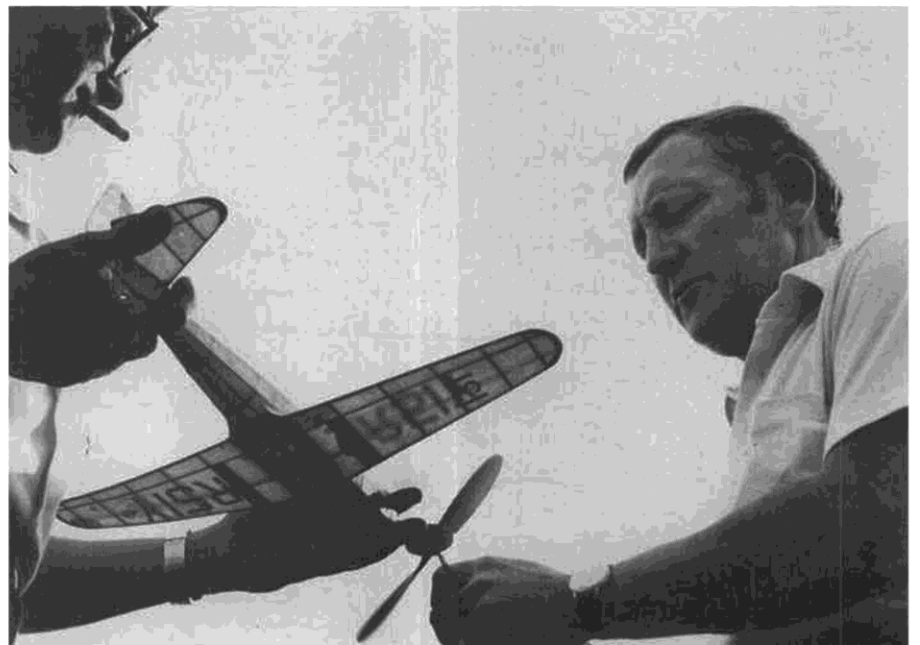
This little speedster typifies the race-planes of the era, and is fun to fly. "Suzy's" best official time to date is 86 seconds. She consistently does 50 to 60 seconds, having gone over a minute many times.

The fuselage is built using the keel and former method. The only points perhaps needing mention are the need for care in maintaining fuselage alignment, and the slot for the stab. Stringers are added alternately side-to-side, attached first at the middle of the fuselage and working toward the nose and then toward the tail. As the stringers are brought to the rear post, a slot for the stabilizer is created that is tapered, but closed off at the rear by the post. At the

post, which runs from upper to lower keel, fill in between the glued-on stringers with scrap sheet. The tail post should be cut through just below the upper keel to allow insertion of the stab and, when in place, glue lightly at the rear. After covering and assembly, but without prop and rubber, add clay to the noseblock to place the CG at the front spar of the wing and test glide over that well-worn tall grass, changing stab trim as required for optimum glide. The tapered opening provides shimming room for the leading edge and is covered over when final glide trim is achieved.

As a starting point, drill about 5° downthrust and 2° left thrust into your

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**Author Tom Nallen packs in a few more winds before last lap, as R/C modeler, Col. Davila, Wright-Pat based, holds. Patches in wing are result of slight mid-air in a previous meet.**

noseblock. The original flies in wide left circles. The left wing is slightly washed-in, and tweaks of left rudder give precise control of circle size. If "Suzy" oscillates longitudinally in flight, add a little more downthrust. A prop of 7-1/2 inch diameter, carved of pine, is used on the original (plastic is fine), swung by four strands of Pirelli (2mm) about 26 inches long when new. The rubber stretches with use, and after the Nats and a subsequent FAC meet, "Suzy's" motor measured close to 31 inches in length and had nothing left. With a new motor, I like to work up from about 145 to 160 turns, with a 9:1 winder, as the heats go along. I don't use a free wheeler on my racer because dependability is paramount, and Murphy's Law is big in elimination type flying. However, most of the guys use them, and if you are confident in your device, it should add to your time.

The airplane is covered entirely with blue Japanese tissue, with the exception of the rudder and noseblock, which are yellow. Adhesive-backed yellow plastic shelf liner, purchased in a local department store, was used for all of the trim on the plane but the written "Suzy" on the cowl and the small registration numbers on the fin. These were painted on with a triple 0 brush. My model, less prop, noseblock, and rubber weighs in at .7 oz.

"Suzy" is a veteran of over 200 flights, and though wearing many patches, and with a lube-spattered fuselage and the subtle warps of old age marring her beauty, she still loves to fly.

**THOMPSON TROPHY RACE RULES,**  
as described by DAVE STOTT.

"We have no scale judging! We only have certain requirements that each model must measure up to. We think that when the actual racing is under way, the guy who wins at the end of the flying should be the true winner, and not be the victim of an anti-climax by scale judging.

"In a nut shell, our requirements for racers are; no folding props, classic construction (that is, built-up tissue-covered double surface, sheet where real ship was metal or wood is optional), no undercambered airfoils, correct coloring and marking must be on. (We have relaxed the marking in cases where a guy has been up half the night to finish his ship for the race. But they must be on the next time the ship is entered), 24" span limit. We reluctantly bar Page's racer and Mr. Mulligan due to their obvious advantage. Before 12:00 noon on the contest day we require 2 random flights be put in by all racers, timed, of course. This is our "Shell Speed Dash". The first 10 placers qualify for the Greve and/or Thompson, depending on the fact of their design being

raced or intended to be raced in either of these real life events. That is, to say a Pesco Spl. could not be used in the Greve, but only in the Thompson. A Jeep would qualify for either or both (at flyers discretion) as the real Jeep did.

We use the times and placing in the Shell to set up the line up of two 5-plane heats in the Greve & T.T. The winner of the Shell is in the first heat, as well as the 3rd, 5th, 7th and 9th placers. The others go in the 2nd heat. Launching is done at a starters signal with contestants lined up at 6 ft. intervals. Each heat is two flights long. (Laps, as we call 'em). First guy down is eliminated each time. This leaves 6 guys (3 from each heat) qualified for the Final Race.

"The Final is flown the same way . . . first guy down is out, until two remain for the last lap. A blown motor puts you out of the race immediately, as it would in real life. No motor changing once heats and final are under way. Two minutes to wind motors. So, a final would run 5 laps (flights) if no one blew a motor. A long and nerve wracking grind, for a guy might have to fly two laps of a heat, and five of a final, plus stay up the longest to win. And there is always the danger of a mid-air collision!

"We also have one event for the non-qualifiers, that is the guys who did not place in the top ten in the Shell. It is simply a line up and one flight. Last guy down is the winner. In that way no one goes without getting some action." ●