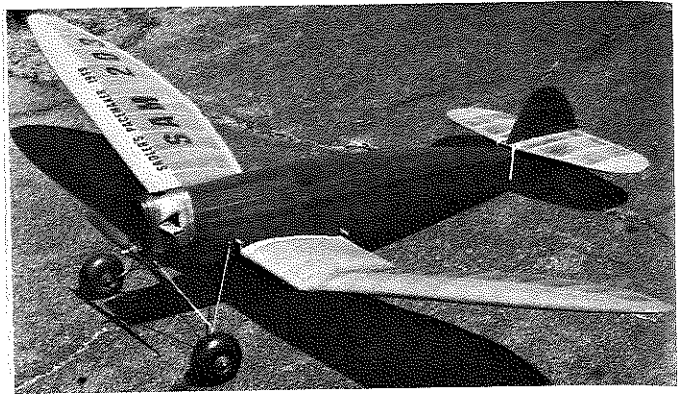


15. Seven-foot Corben Super Ace built by Bud McNorgan from 1938 plans by Don Garafalow. Diesel power. Henderson dry lake.



14. A Super Cyclone powered Sadler Pacemaker by George Armstead. Most successful low wing free flight.

promptly made plans to start marketing the Feeney (as it was renamed) in the 1939 season. A rather ambitious program of engines was first introduced in April of 1940. Three engines (or models) were presented, each at the same price, \$29.50:

**Model A:**

- 20 cc (1.8 cu. in.) displacement
- 1-3/16" bore
- 1-1/16" stroke
- 2/3 H.P.

**Model B:**

- 15 cc (.914 cu. in.) displacement
- 1-1/16" bore
- 1-1/32" stroke
- 1/2 H.P.

**Model C:**

- 10 cc (.617 cu. in.) displacement
- 15/16" bore
- 7/8" stroke
- 1/3 H.P.

Also offered were the casting kits at \$13.75, which included spark plug, coil, and condenser. Setting up business

under the name of Feeney Engine Co., 2700 South Michigan Ave., Chicago, IL, it wasn't long before the engine cost jumped to \$49.00. About this time, the firm moved to 1516 South Wabash in the same city.

To help spur sales, engines were offered on a basis of \$15.00 down, the balance due when the engine was completed and ready for delivery. Also at this time, the Model A engine was being offered for radio controlled ships and similar large models.

Operation of the four-cycle engine was truly "four-cycle" as the oil was not mixed with the gasoline (aviation gas of 80 to 90 octane was recommended). In its stead, the oil was placed in the crankcase and periodically checked. Changing oil frequently was also recommended although no indication was given of how often.

A rather neat idea was evolved on the Feeney engines, which allowed you to buy various parts of the A, B, and C

models to make the changeover to any size engine desired. The firm's claim was that these were "screwdriver" kits, as it was stated to be so simple to change. In short, you could have a "3-in-1" engine.

For those interested in the manufacturing features of the Feeney engines, most all parts, (crankcase, cylinder, etc.) were made of aluminum alloy (type not specified). The connecting rod was also heat treated aluminum, as was the piston. The crankshaft, made of aluminum-bronze, featured a worm timing gear on the end of the shaft, hobbled to give one piece construction.

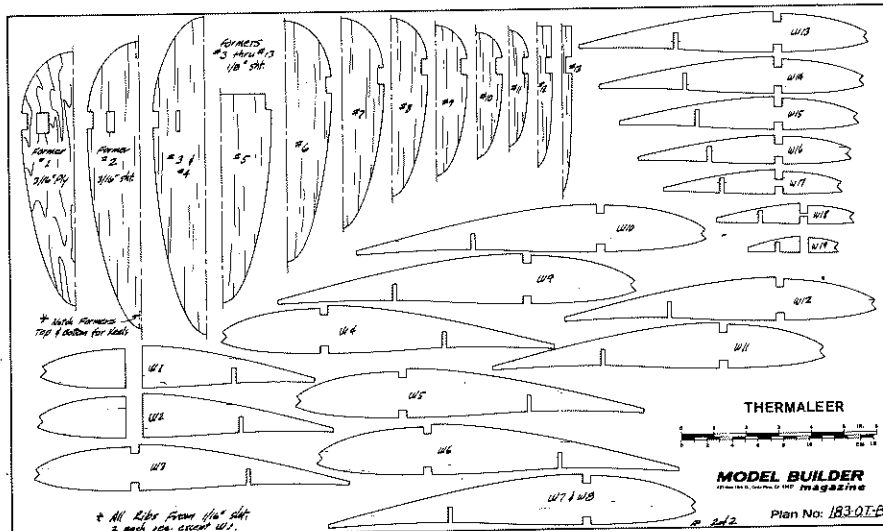
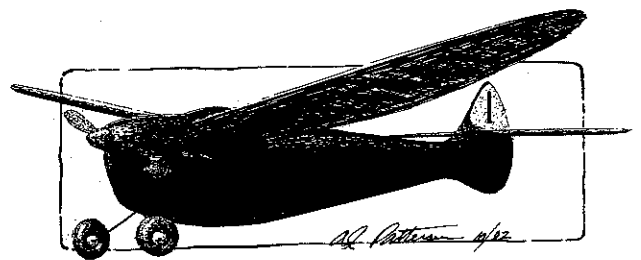
Valves and rocker arms were of heat-treated aluminum-bronze, but the push rods and tappets were still alloy. Interestingly enough, the push rods could be lengthened (or extruded) slightly by hammering the rod while rotating it on a flat surface. Clearance was recommended at .007 clearance. As

*Continued on page 94*

# Thermaleer

OLD TIMER MODEL OF THE MONTH

Designed by: Dan Veronica  
 Drawn by: Al Paterson  
 Text by: Bill Northrop



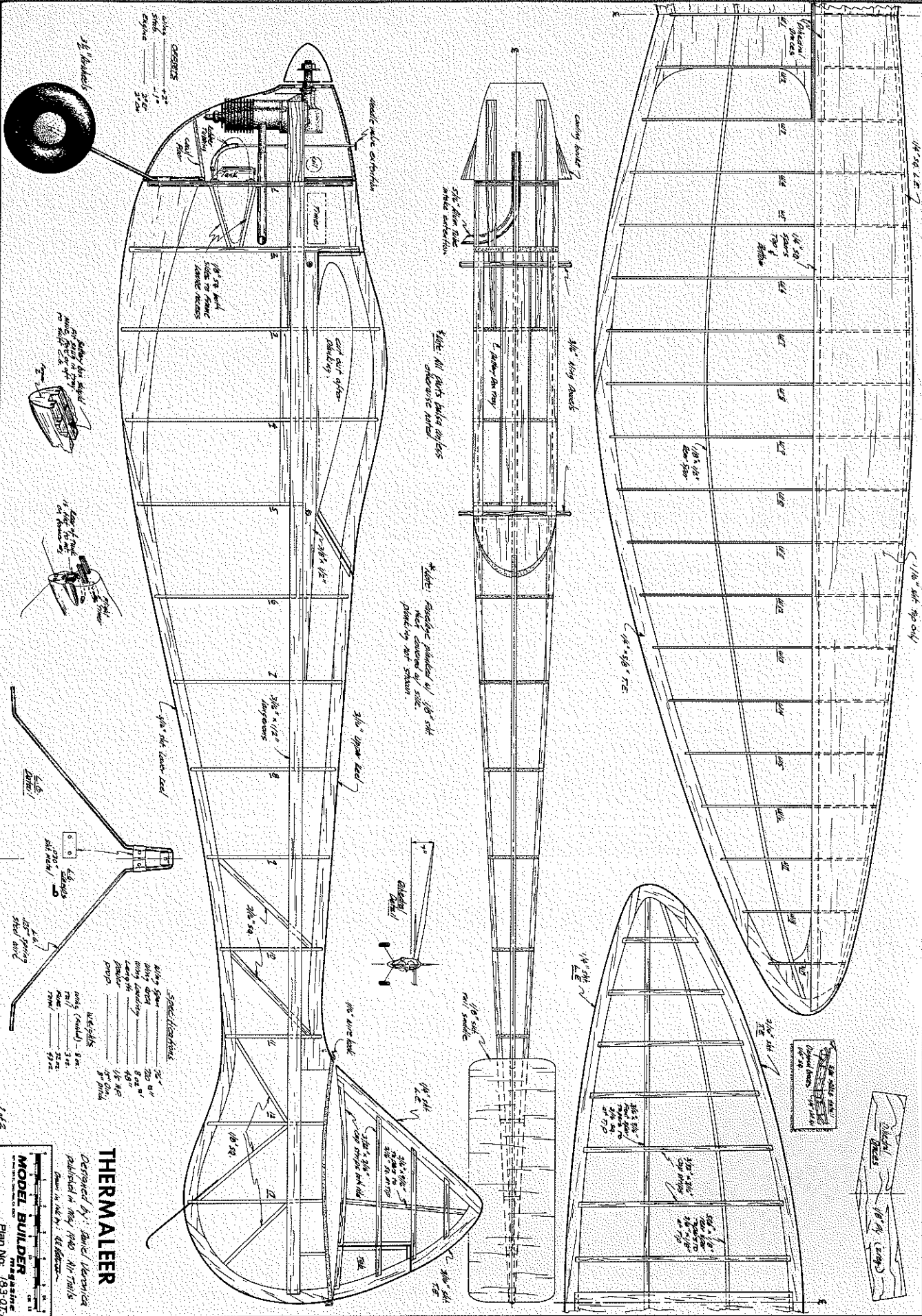
• It seems that no matter what era of modeling you may examine, there have always been, at any one time, the high-strung, super-climb, mediocre-glide "Hot Shots" . . . and the low pressure, non-tricky, gradual-climbing, float-on-anthing "Cruisers." "Thermaleer" is one of the latter.

At a contest, the "Hot Shots" invariably outnumber the "Cruisers" about ten-to-one. Of course, this is logical, as the hot shots are usually available in kits, and at ten-to-one odds, they simply overrun the cruisers in the competition.

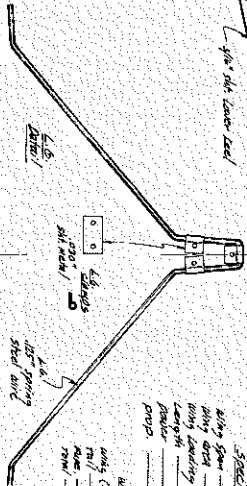
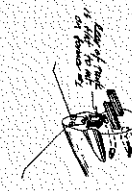
But the cruisers are sneaky. They calmly, and gracefully ease up to a reasonable altitude, lose nothing in the smooth transition from power-to-glide,

*Continued on page 105*

MODEL BUILDER



wing span 22"  
 wing chord 1 1/2"  
 engine 1/8"



**Specifications:**  
 wing span 22"  
 wing chord 1 1/2"  
 engine 1/8"  
 length 48"  
 fuselage 1/8"  
 prop 1 1/2"

**THERMALEER**  
 Designed by: Daniel Liberman  
 Published in May 1980, *Model Builder*  
 Plan No. 185-017

England and Jean Fraisse of France, who's designs started me thinking about a curved trailing edge. Jordan Segal and Jeff Johnson, who steered me onto foam leading edges. From Editor Bill Northrop I borrowed the idea of slicing off composite assemblies into individual pieces, and Al Denison, my flying buddy, who kept telling me that I should try something really radical until I did. I also want to thank Duke Fox for remembering the combat flyer with a pair of really fine motors at a reasonable price.

Well, that's it. I hope you will give F.A.I. combat a try and get in on all the fun. To keep up on all the latest trick stuff and get a fine newsletter, join the M.A.C.A. Contact Jordan Segal at 8314 W. Oak, Niles, IL 60648, and send \$9.00 for a one-year membership.

Hunter's prayer: "I hope all my kills are clean and quick."

### Elec. Sailplanes *Continued from page 31*

reduction drawing 11 amps or 6.55 minutes of motor run. The Olympian 05 has been measured at over 2900 ft. on a 6-minute motor run, giving a glide of 25 minutes in evening air. Let me tell you 2900 ft. is high for an 87 inch wingspan.

I hope you decide to try an electric sailplane, as I know you'll enjoy the freedom it gives you. You can now fly anywhere; no-winch or high start necessary, just flip the switch and soon you'll be soaring with the turkey buzzards. Next issue we'll build an electric sailplane of my design called Electricus. I'll provide step-by-step instructions on construction and electric installation.

Oh yes, I almost forgot, I heard from Clyde Der Tauben the other day. He and some of his buddies have gotten into some heavy duty electric blimp racing! See you next issue.

### Thermaleer . . . *Continued from page 42*

and then proceed to float around on any slight excuse for rising air. About the only tense moment may occur if the cruiser seems to be picking out an uncomfortable spot on which to land!

Because of their relaxing flight manners, which usually result in a longer useful life expectancy, cruiser designer/builders tend to pay a little more attention to esthetics; beauty of form and line, in their creations. "Thermaleer," designed and built by Dan Veronica, was a prime example of this philosophy. And it paid off. According to the article presented in the May 1940 *Air Trails*, which accompanied the plans, Thermaleer, at time of publication, had won three trophies. It recorded a three-flight average of 17-1/2 minutes, and its longest single flight was 45-1/2 minutes. Not bad for a cruiser!

Unfortunately, but par for the course, the only reference to balance point on the drawings (nothing in the article) was a suggestion that the battery box should "move backwards or forwards to trim for

C.G." Noting that the wing is at two degrees positive and the stab at one degree negative, and that the stab is fully symmetrical, we'd suggest making first test glides with the model balanced at the front wing spar, and go from there.

R/C can be a little tricky with this one. The possible rudder area is cut almost exactly in half by the stabilizer, so you might have to split the rudder into two parts. However, this is a cruiser, and maybe just the top half will provide enough rudder control for relaxed maneuvering . . . after all, you don't roll and loop a cruiser. . .

### Scale . . . . . *Continued from page 45*

hoped by this time in the event's history to have a larger turnout. A good spectator showing watched the contestants have a great time during the event. There is always an element of thrill involved in a race, and to watch a variety of scale subjects racing heightens that thrill.

The huge trophy could have gone to permanent rest in Ralph White's house, if he had been able to win for the third time. It was not to be, however, when Ralph managed to cut a pylon or two. The event was won by a first-year contestant, Shelby Hagberg, from Iowa. Shelby won all four heats with his Jemco P-51. Second went to Ken Oden with a Tony Ki-61 that he flew beautifully and smoothly. Third was Ralph White with his venerable Flite Glas P-51. Fourth was the Been-Warner team with a P-51D, and fifth came out to be John Delafosse, with a PT-19(!). With all those P-51s, it sounds like the Reno Air races. Perhaps next year will result in a larger number of contestants. Fly scale and turn left!

### A PASSING THOUGHT

The weather was beautiful; a super midwest autumn day with a gentle breeze and a temperature that would have been at home at any resort area. I was on recess duty, but all 107 of the fifth graders were busily engaged in letting off steam in a no-problem manner. I settled back on the primary merry-go-round, stared at the sky, and had an inspiration.

Now don't get any idea that this is a carefully thought out idea . . . it's not! The whole thing could be as full of loopholes as our wonderful U.S. tax system. I'd just like you to mull over the concept. Call it "Impression Scale".

With many people bemoaning the fact that sport scale has become precision; that mechanical options and a lack of flying options occurs . . . compared to what could be . . . and that lengthy static sessions result in imbalances of point awards for such detail things as landing gears, enter "Impression Scale". Without giving any real details ('cause I ain't got none!) it goes like this . . .

Place all models in a straight line, showing the side view. Establish a line for the judges 15 feet (or some distance) away, parallel to the models. Lay the presentations along the judges' line

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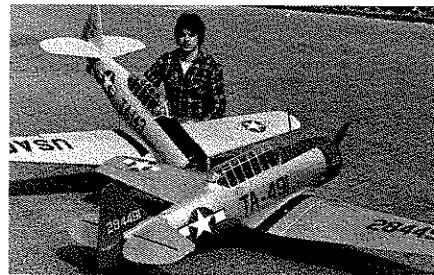
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## NICK ZIROLI MODELS

29 Edgar Drive, Smithtown, New York 11787

opposite the model. Let the judges roam the line at will, looking at presentations and models. After X number of minutes, rotate the models 90° to front view, etc. Allow about 5 minutes (or less) per model (12 models times five minutes equals 60 minutes total) for all static judging. Having all the models in sight at once could help to eliminate that old bugaboo of starting out to score too high or too low and having adjustment problems later on.

Nothing really new yet, eh? Read on . . . eliminate all the categories on the form. (Outline, craftsmanship, etc.) Simply award the model something between 0 and 100 points. In short, what impression does it make in total. Actually, if you've ever watched judges work they usually "adjust" the three scores to arrive at a point where they have a score they feel the model should have as a total (and in relationship to the models they have already seen).

*(I can visualize the knowing smiles of veteran Formula 1 Pylon judges who, over ten years ago, had to numerically rank as many as 130-150 aircraft in an hour's time before racing got underway. wcn)*

Now that we have assigned each model a score between 0 and 100 points for static, let's fly them. Throw away that judging form with its mundane five required and five optional maneuvers, and simply give the contestant a period of time in which to give you, the judge, the impression that you are watching a