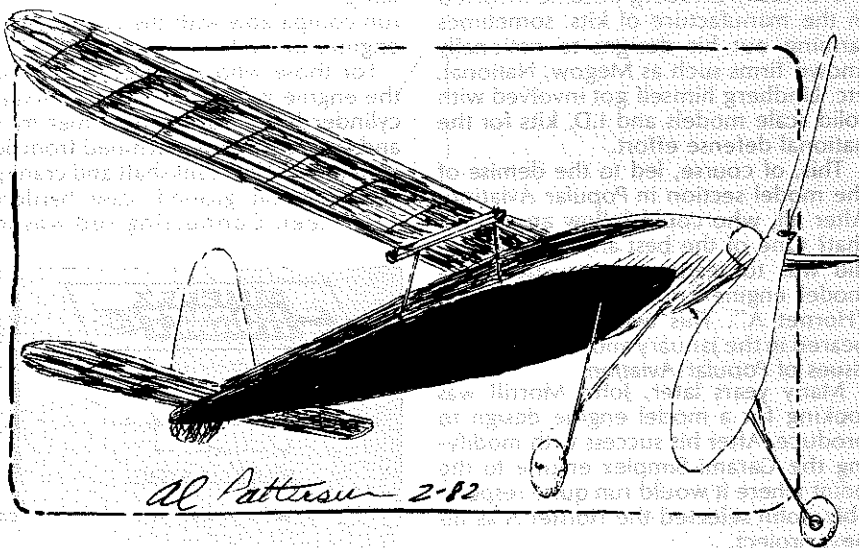


STRUCK CONTEST WINNER

OLD TIMER Model of the Month

Designed by: Henry Struck
Drawn by: Al Patterson
Text by: Bill Northrop



STRUCK CONTEST WINNER

The name pretty much dates it. "Contest Winner," "Texaco Contest Winner," "Eastern States Champ." It seems that in the earlier years, the modelers were more concerned with designing a reliable aircraft that performed well, rather than conjuring up a name that implied what it should do.

This model brings up a puzzling memory to me. The first scratch-built competition model I ever managed to complete and fly successfully was a Henry Struck diamond fuselage design which must have been a predecessor to

this one . . . it had much the same structural design, but without the 1/4-inch sheet around the nose. There also must have been full-size plans, because I wasn't too good at enlarging plans in the mid-'30s. Could it have been published in *Model Aircraft Builder*? Anybody have a clue? Let me know, if you have the answer.

This Henry Struck Design (is he not the best model designer of all time?) was published in the October 1938 issue of *Air Trails*, during a time when many of its plans were published reversed, that is white lines and copy on a black background. The text indicates that models of this design had been winning contests since 1936 (which backs up my belief about there being a similar one published earlier). The diamond fuselage (square cross-section throughout, turned 45 degrees to put a corner longeron on each side and at the top and bottom) is extremely rugged, with the 1/4-inch sheeted nose, and cap-stripped

longerons.

The wing is typical Struck construction, with the top surface sheeted more than one-third of the way back from the

leading edge. R/C glider builders will relate to the two-piece stab, each half of which plugs into 1/32 wire "rods".

A most unusual feature is the use of a rubber motor (12 strands of 1/4-inch flat) without slack. Struck went for a near vertical initial climb, and got sufficient altitude in the 35 to 40-second motor run to get well above much of the competition. He put 750 winds into the motor and did not have to worry about slack rubber shifting back and forth to disturb the carefully adjusted glide.

Struck's flying instructions are worth repeating . . . so we will.

First check the balance of the model and the incidence of the surfaces. The model should balance in a normal flight attitude when supported on the fingertips at the diagonal wing-tip braces. Rest the wing flat atop the mount for preliminary flying. The elevator should be at a negative angle of about 3 degrees. (Raise the trailing edge about 1/8" above the leading edge.) Now try a hand-glide in a grassy field where the landings will be soft. Correct any diving tendency by inserting small slivers of balsa under the leading edge of the wing until a long glide is obtained. These adjustments are not final, as constant minor changes are made during tests. However, they do serve the useful purpose of preventing crackups under power.

Warping the wing is a necessary part of adjustment to offset the torque of the propeller. Viewed from the front, the

left leading edge of the wing is warped up about 3/16". The leading edge is warped from the center . . . where its shape is unchanged . . . reaching a maximum near the tip of 3/16". The right leading edge is warped down about 3/32" in the same manner. The leading edge of the rudder should be offset about 1/8" to the right (viewed from the front) for an against-torque circle.

Power flights should be made first with a limited number of winds . . . 50 to 100 turns. Circles should be to the right during both power and glide. On successive flights when increasing the number of turns, it will probably be necessary to add a little down-thrust to prevent stalling. And possibly right thrust will be necessary to hold the right circle. Make these adjustments in the thrust line by inserting small balsa slivers between the nose plug and the front of the fuselage.

A good glide should always be the first consideration when making adjustments. It should be as flat as possible, near the stall, but still not mushing. For windy-weather soaring, a very slight stall and a sharper circle are excellent. Otherwise a steady glide and 40-to-50-foot circle are the best. Once the glide is obtained to your satisfaction make final adjustments for the power flight.

In the climb, the size of circle is not so important as long as the maximum altitude is attained. Slight stalls in fairly large circles may be eliminated by a little right thrust if the glide is good. Under full winds the first part of the flight is almost vertical with a slight lean to the left with the torque. The circle gradually tightens to the right as the motor runs out.