



Author, FAST Club member, with Jeep and some of the hardware it has accumulated.

Trophy behind the model is second '59 Nats. Other trophy is first in Flightmaster's Annual.

the jeep

by DAN LUTZ

*Beauty and performance—
a rare combination.
2nd place winner '59
Nats, Lutz's Jeep is a show
case champion.*

CONSTRUCTION

► Since the earliest days in aviation, plane designers have streamlined and reduced resistance here, and added power there in order to increase the number of miles an hour an airplane could travel. Art Chester and his famous Menasco powered Jeep was one of the outstanding examples in airplane design and pilot technique which made the golden age of air racing so popular. Starting in the year 1932, with a speed of one hundred and fifty-four miles per hour, the Jeep continued to increase its speed at each of the national air races until speeds of well over the two hundred and forty mile an hour mark were achieved.

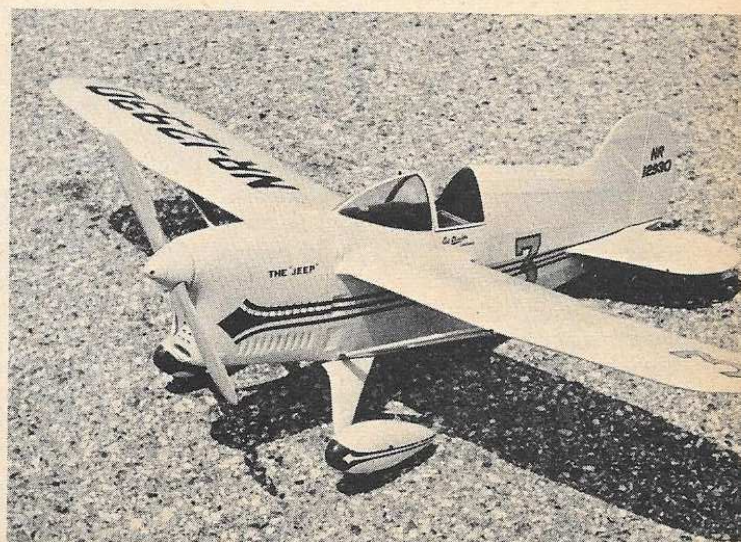
The Jeep will make a worthwhile project for those who desire to build and fly a scale model airplane just a little different; however, don't let the sleek lines of the Jeep fool

you for it can compete in scale appearance and flying just as well as the run-of-the-mill high wing monoplanes.

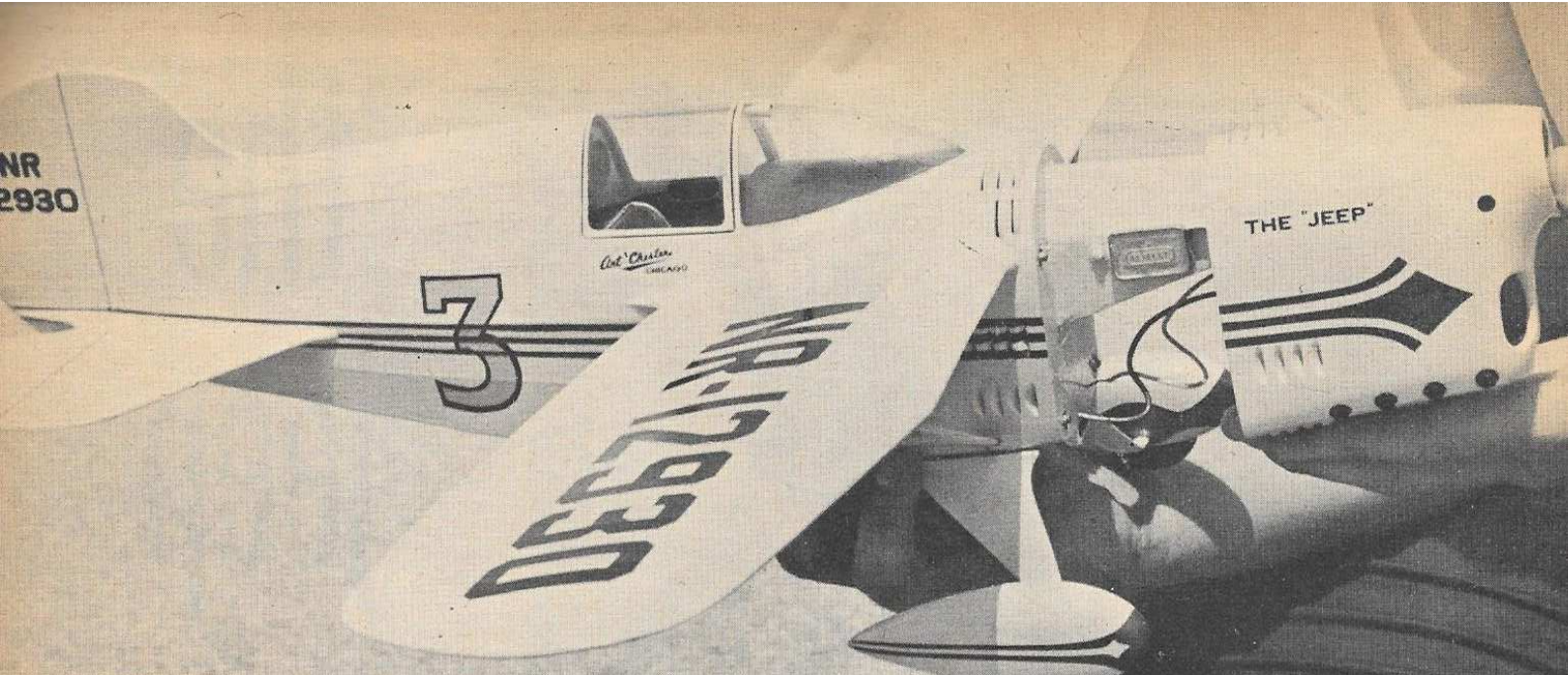
The original model placed second at the 1959 California Nationals and later in the same year won first place at the Inglewood Flightmaster's Tenth Annual free flight scale contest. Before starting construction, study the plans very carefully and select your balsa wood in order to keep the weight of the model at a minimum. To construct the fuselage, start by building two sides, one over the other. Use $\frac{1}{8}$ " sq. hard balsa for the longerons and uprights. Add the $\frac{1}{8}$ x $\frac{1}{16}$ " diagonal braces and let the cement dry thoroughly before removing the sides from the plan. Join the two fuselage sides at the rear and add the $\frac{1}{8}$ " sq. cross braces, starting at the front and working rearward. Refer to the top view for the correct widths to cut these braces.



The Jeep was famous for buzzard shaped wings and sleek clean lines. Engine cowling designed for minimum frontal area, max. cooling.



Author used and recommends small railroad decals for added realism. Note the fine workmanship of the cowling louvers and vents.

NR
2930

Cowl is held in place with large dress snaps cemented to firewall and rear face of cowl. Note the glow plug booster wires and scale finish.

The Jeep . . . continued

Cut out all the bulkheads from 1/16" sheet balsa. Cement them in place on the box-like fuselage. Cut the firewall F-9, cowl ring F-10 and landing mount from 1/16" plywood. Attach the 1/16" dia. piano wire landing gear and .020 aluminum wing strut fittings by sewing them to this platform with soft wire or heavy thread. Apply several coats of cement to this installation. Cement this assembly between the bottom long-erons, then add all of the 1/8 x 3/32" stringers. Use 1/16" sheet balsa for all the planking on the fuselage. The wing fillets are carved from solid balsa blocks. Cement them to the fuselage at the same angle as shown on the plan side view. Cement the W-1B plywood ribs to the wing fillets before the final shaping and sanding. Cut the wheel pant parts from fairly soft balsa. Add the 1/4" plywood inserts to the two inside 1/4" sheet sides only. This insert serves as an anchor for the rear landing gear strut. The landing gear fairings are made up from three layers of 1/16" sheet balsa. Cut the parts where needed to form the graceful bend, then sand to an airfoil shape. These fairings and the wheel pants should be wrapped with several layers of silk and coated with about four coats of dope. The cowl is made from three balsa blocks. The nose block should be carved from a fairly hard grade of balsa. Tack glue the cowl blocks together and lightly cement them to the firewall which should be securely cemented to the front of the fuselage. Shape the entire nose section of the fuselage at this time, using the side, top and front view as reference guides. Remove the cowl and hollow the blocks to about 1/4" to 3/8" thick. Cement F-8 and F-9 to the cowl at this time. Use four large dress snaps to hold

the cowl to the firewall. Use the unpainted dress snaps because the cement will stick to them better.

The interior details are simple and can be added at this time. A seat, safety belt, control stick, rudder pedals, instrument panel and throttle will just about take care of the interior details. The engine mount is made from 3/32" sheet balsa with the 1/8" plywood F-11 serving as a sub-firewall. This mount also houses the 1/2 ounce fuel tank. The soft copper tubing filler tubes should be bent so that the fuel tank can be filled through the air inlet in the front of the cowl. This motor mount can be altered to fit any 1/2 A engine of the builder's choice. The tail surfaces are constructed directly over the plan. Use extra hard balsa in the stabilizer to avoid warping when covered and doped. Soft wire hinges are used to join the tail surfaces together. These parts should be joined and thoroughly cemented before covering them. The wing ribs are cut from 1/16" sheet balsa. Slide the ribs over the 1/8 x 1/4" spars and construct the wings directly over the plan. The leading and trailing edges will require blocking up one fourth of an inch off of the plan due to the symmetrical airfoil. When thoroughly dry, remove the wing panels from the plan and add the 1/16" sheet balsa planking and solid balsa wing tips and ailerons. The 1/16" music wire hooks should be cemented and re-cemented several times to insure them from pulling out. The 1/16" plywood sections with the 3-48 blind nuts should be cemented in place before covering. The wing struts are made from hard balsa or sugar pine. Make a left and right side. Construct them directly over the plan so that the correct length can be maintained. The .020 aluminum fittings are held in place

with 3/32" hardwood dowels. The model should be covered with Silkspan or silk. Apply several coats of clear aero gloss dope to fill all the pores in the covering; silk will usually take about three coats. A wood filler of clear dope and talcum powder should be used on the cowl, wing struts and wheel pants. The louvers should be added at this time. Note that some of them face out while most of them face in. This is accomplished by cementing small, hand carved louvers to the model where shown on the plan. When they are thoroughly dry, cut a narrow slot behind them and use a small rat tail file to finish contouring the opening. The louvers that face in are merely carved in the cowl with a sharp No. 11 Exacto knife. Most of the small details can be added at this time. The air scoop on the bottom of the fuselage is carved from solid balsa. The trim tab on the rudder is made from shim stock.

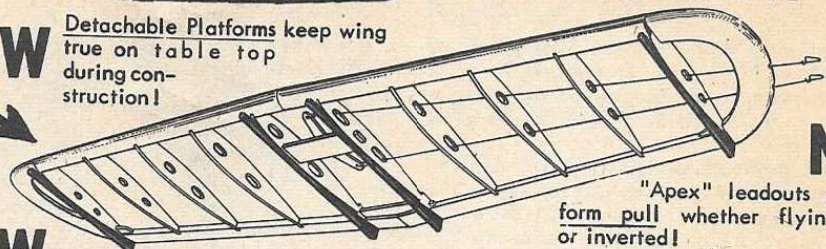
By this time your model should be ready to paint. Leave the windshield and cabin hatch off until most of the doping is finished. Apply several coats of Aero Gloss Cream Dope, sanding them very lightly between each coat with No. 400 wet or dry sandpaper. The Jeep had a beautiful hand rubbed finish when it showed up at the 1935 air races, so don't hesitate in applying a good finish to your model for scale points will be awarded accordingly.

My model was carefully masked and trimmed with dark green dope; however, there is a new fuel proof decal film available called "Wondur-Cal" which will serve very well for the fuselage stripes. Use the diamond head which is shown on the right side of the cowl as a guide when cutting these trim stripes. The windshield and cabin hatch can be added along with the 1/4" aluminum (Continued on page 55)

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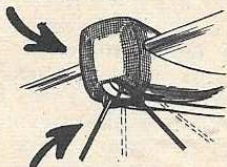


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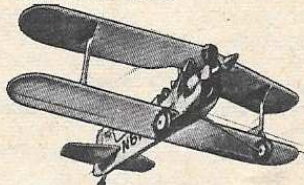
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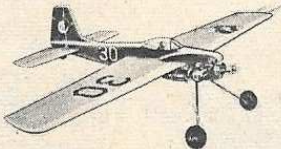
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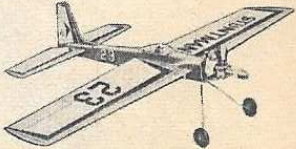
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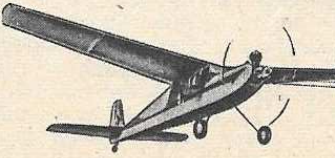
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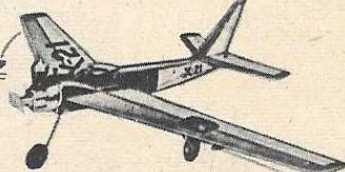
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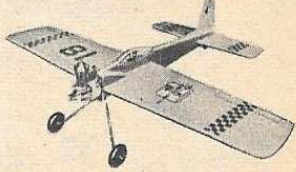
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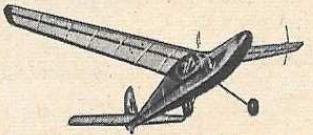
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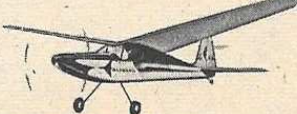
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The Jeep

(Continued from page 20)

tubing exhaust stacks.

FLYING: There is a saying, "The proof of the pudding is in the eating." This also holds true for a free flight scale model.

Due to the design and nature of the model, the following instructions should be followed very closely. The model must be free from all warps and balance where shown on the plan. Start by adding five to six degrees of right thrust and off setting the rudder 1/64" to the right. With



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the engine running about two-thirds, power launch the model over tall grass. With the aforementioned adjustments, it should circle the left in a very tight bank, gaining altitude with each circle it makes. My first few test flights were made with only about half power and power stalls which resulted in a spin. However, as the power of the engine was increased, it began to fly in a very stable manner. Under full power, your model should circle to the left and glide very fast and slightly to the right. Do not attempt to control the direction of the model well under power by turning the rudder. If model should turn and dive to the left or right, either increase or decrease the engine thrust adjustments. Also do not attempt to fly the model without the cowl or to the right while under power. As a final flight adjustment and for the R.O.G., the left aileron can be bent slightly down in order to help control the left bank while under power. These flying adjustments will vary with each model built; however, your model of the Jeep should react in the same manner, provided it was constructed according to the plans and balanced where shown. My original model has over fifty flights and except for a couple of rough landings in high winds, it has proven to be a very successful and rewarding model.

For the detailed scale three view drawings which are required by the A. M. A. for judging you may refer to the November 1959 issue of the English Aero Modeler magazine. Happy landings.

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