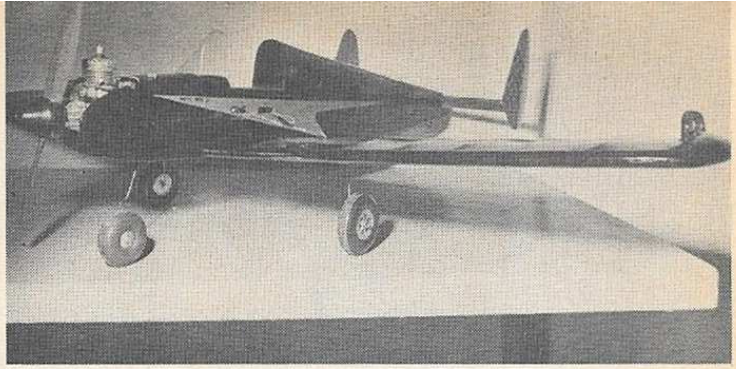
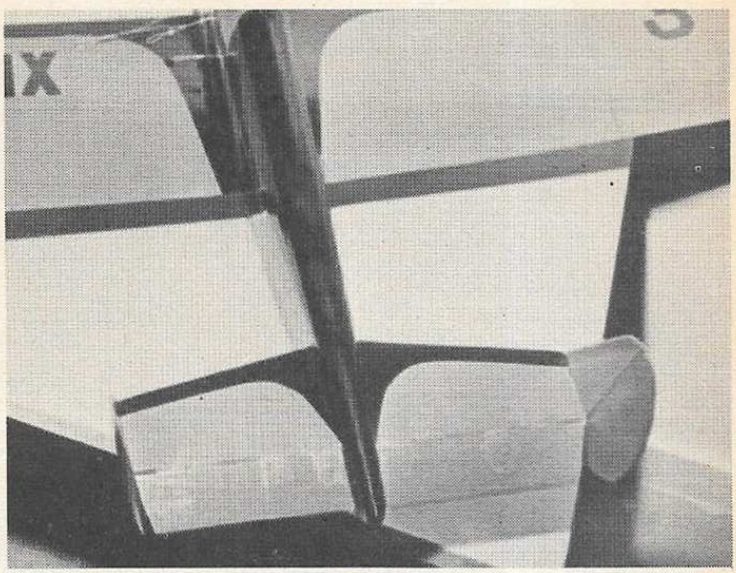


Dave, out of his G.I.'s, poses with his Mox Nix—note the Veco .19 R/C engine up forward. Throttle control adds versatility to performance.



Close-up view shows sturdiness of built up machine and the trike landing gear. Plywood lead-out guide on wing tip has holes for three lines.

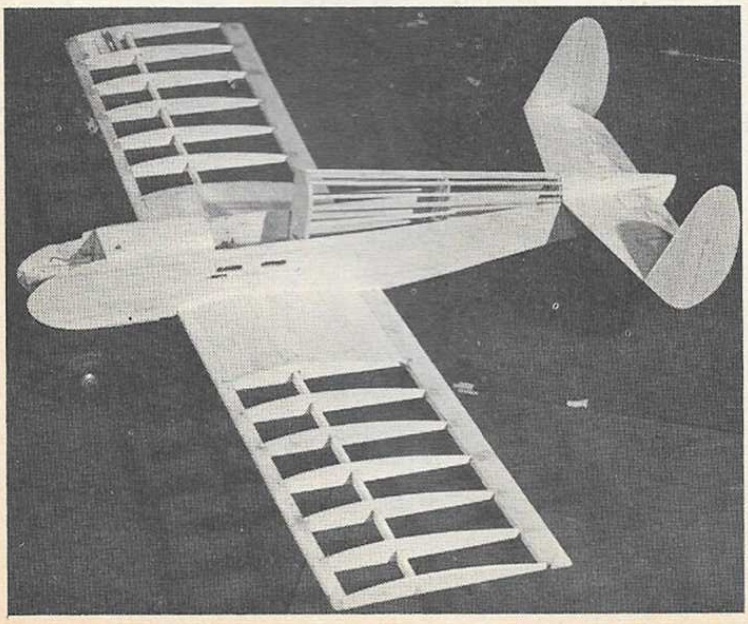


Generous rudder offset is seen in this photo—rudder offset helps maintain line tension. Good size elevator makes plane very responsive.

MOX NIX

By DAVID KINGMAN

Looking for a sport Ukie that can wear you out rather than itself, also good looking and fine performance? Yes, then our Mox Nix will surely be your cup of tea.



Uncovered framework—note weighted outboard tip, use platform between ribs to support the weight. Wing tips are added before covering.

► Today could have been one of those weekdays that make a man think the weekend will never come. First, a frosty morning, then all manner of small irritations at work. Finally the working day ended, and as I walked from the office to my car things started to look brighter. The temperature had risen to above freezing, and a glance at the flagpole showed a pretty constant breeze. Well, what would you have done? I zipped home, collected my as yet unflown sport model and my ever faithful flying partner, and went model aviating! Darkness later forced a halt to the activities, but not until the cares of the day were forgotten and I had decided this Mox Nix is even better than those before it.

The first Mox Nix was designed in Germany during 1960. It had the "different" look I desired, and flew well, but ground handling was poor. The second moved the main gear struts farther apart and beefed up several points in the framework. Mox Nix series three, shown here, uses a further improved airframe and the three-line control system first sold under the J. Roberts brand name. Plans show the two-line system most people will want to use. If you think you might like to try flying with engine speed control, do it. You will like it! Mox Nix is smooth in flight, yet responds in a decisive manner to all commands.

At reduced rpm, she will taxi like a baby carriage. The name? "Mox nix" is G.I. slang for a German phrase meaning "It makes no difference." As we used it, a cheerful, "no sweat" attitude is indicated. Design philosophy was that if two ways to build a component existed, I'd draw it the easier way. Let's cut wood!

WING—GENERAL INFORMATION

It is designed so that full 36" pre-formed leading and trailing edges can be used. If these are not available, the leading edge can be shaped from a piece of ½" square stock, or a ½" strip can be cut from a sheet of ½" balsa. If wood spars can't be bought in your area, you

MOX NIX #3

can cut them both from a sheet of 3/16" balsa. The flat bottom airfoil allows wing halves to be built flat on a bench or piece of flat wood. A good rule is to avoid any warps or bows in wing construction. However, a model which is designed to always fly right side up can be an exception. An inner wing panel which droops slightly at the tip, or an outer panel with the tip raised can be extra insurance against getting caught with your lines slack if a gust of wind catches the model. Mox Nix will do an inside loop, but don't try it if you have built-in warps. It will stay tight on lines without "aileron action," so take your choice.

CONSTRUCTION

Cut dihedral braces from 3/32 plywood. Cut main spars for each wing. Trim an angle at one end of each so that when they are held together the correct dihedral angle is formed. Determine this by checking against a spar dihedral brace. Cut and trim a rear spar for each wing in the same manner. Cut the leading edges and trim their center butt joints to fit well when the leading edges are aligned on their dihedral brace. Cut and trim the trailing edges, using their dihedral brace as a guide. Build the main spar assembly by joining the spars on their dihedral brace. Glue well and clamp. Build the rear spar assembly, leading edge assembly, and trailing edge assembly in the same manner. Check to see that all four have the same dihedral angle, then don't disturb them until the glue has set well.

Cut ribs from 3/32" balsa. Mark rib locations on spars, leading and trailing edges. Make notches for ribs in leading and trailing edges as shown on plans. Building basic wing consists of sliding ribs on spars and then attaching the leading and trailing edges. For warp-free construction build one wing panel first, keeping it pinned and blocked on a flat surface until it's dry. This panel may be built over the plans or may be checked with a triangle to assure "squareness." Remove it from bench when glue has set, position ribs in other wing, and pin that panel flat until dry.

Cut main gear mounts from 3/32 plywood. Check for snug fit where they will fit in wings. Bend main gear struts from 3/32" wire. Wing plan and fuselage side view show major bends to be made in each strut. The axles may be bent so that wheels are outboard of the struts, as shown on small front view, or inboard.

It's largely a matter of personal taste, though best ground handling is to be had with the wheels as far apart as practical. Secure struts to mounts. I like to use J-bolts. Glue main gear assemblies in wings. When completely dry, the center section may be planked with 1/16" sheet balsa. Allow room around landing gear struts so they may flex backwards under landing loads (rearward angle of struts and torsion bar mounting encourages this). Cut a slot in upper planking as shown on plans. Don't cut into exposed ribs, just lift the planking off them. Former "C" will fit in this slot later. Cut line guide from 3/32" plywood, cut holes in it large enough for control line clip to fit through. Shape wing tips from block balsa or laminated scrap pieces. Notch inboard tip for line guide. Now glue guide and tips on wings. Cut a platform from scrap wood to support the wingtip weight. Secure the platform with about an ounce of weight in the location shown in outboard wing.

TAIL SURFACES

Cut the seven tail surfaces from 3/32" medium-hard balsa. Sand all edges round except where the fins and rudders join. Bevel those joints for rudder offset and glue the rudders on. Be sure both rudders are offset the same amount, at least ¼", with a maximum of ½". These vertical surfaces will be sanded and doped OFF the model. More about this in Finishing section.

The small Veco bellcrank and elevator horn are recommended for Mox Nix. Drill both to accept a 3/32" diameter pushrod.

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Bud Atkinson's CORBEN SUPER ACE is designed for the McCoy .35 and lightweight proportional. Has a wing span of 54 inches, and is beautifully detailed. Was featured in AMERICAN MODELER in 1966.
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The LONG MIDGET MUSTANG . . . is by Jess Krieser and is a semi scale Goodyear type of racer. Designed for engines from .29 to .40. Slight modifications make this a good flyer.
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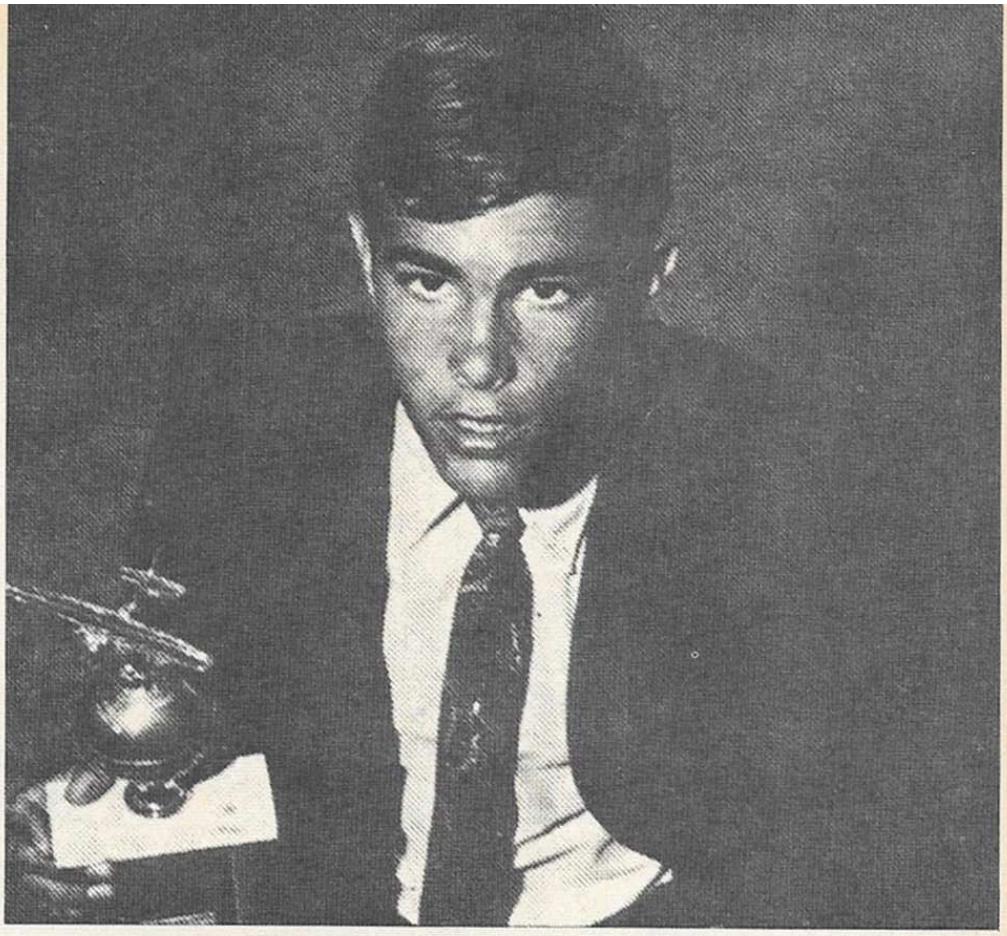
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File the tangs of the horn to a horizontal knife edge for easier penetration in the elevators. Mark point on elevators where horn tang should enter. It would be worth the time spent to carefully drill pilot holes for the tangs. This would be with a 1/16" drill, care should be taken not to break through elevators. Note that leading edges of elevators are recessed to accept horn cross bar. Attach elevators to horn and hinge the assembly to the stabilizer. Be sure elevators are aligned with each other.

Fuselage is a "box" structure with a rounded turtledeck. The turtledeck uses stringers and silkspan covering for simplicity and to give the "tube and fabric" look I like. For a modern look and extreme strength, plank the turtledeck with 3/32" balsa strips or sheet. Don't use stringers or cut notches in formers C or D if you plan to plank the turtledeck. If you are going to use an engine larger than .25 I recommend substituting ⅛" balsa where 3/32" is specified. Plans are drawn with engines from .19 to .25 in mind.

Cut firewall and former "A" from ⅛" plywood, and glue together. Cut remaining formers and the headrest from 3/32" balsa. Select two sheets of 3/32" balsa that bend the same amount when a given pressure is applied to them. These should be medium to hard sheets. Cut the fuselage sides from these. Compare the sides to each other, correct any differences you may discover. Cut two motor mounts and bellcrank mount from ⅜" square motor mount stock. Mark inside surfaces of fuselage sides to show positions of motor mounts and formers. Bend nose landing gear strut. Drill mounting holes for J-bolts and attach the nose strut to former A.

Step one in assembling the fuselage consists of gluing together the firewall assembly, motor mounts, formers B and C, and the fuselage sides. Clamp this structure well as glue dries. Check to see that fuselage sides align at the rear; when pulled together they must match. When the forward fuselage parts are well set, pull the fuselage sides together at the rear and glue in formers D, E, and F. View fuselage from front and rear to be sure the curves formed by the sides going together are symmetrical. Cut the firewall support doublers from hard 3/32" balsa, glue one on the inside of each fuselage side beneath the motor mount between formers A and B.

Glue in bellcrank mount, be sure this is a tight fit between the motor mounts. Bend pushrod from 3/32" music wire. Use side and top views to determine pushrod length. Bend Z bends in the pushrod, or use soldered washers to be sure that the pushrod can't possibly slip out of the horn or bellcrank in operation. Put pushrod end through the control horn and move stabilizer to mounting position on fuselage, slipping pushrod through holes in formers as you go. Center stabilizer on fuselage, check for freedom of elevator movement, and glue stab in place. Fit pushrod to bellcrank. With elevators in neutral, position the bellcrank for neutral too. Mark position for pivot bolt on the bellcrank mount. Drill at the mark and mount your bellcrank. Allow no binding or stiffness in the controls! With bellcrank in permanent position you can cut holes in the inboard fuselage side for the leadouts. These lines should be of .020 wire or cable, extending about two inches outside the fuselage. Loosen bellcrank and attach the leadout lines. Reinstall bellcrank. If you want to plank over the cockpit or build a floor over the bellcrank, do it now. Add the headrest to former C. Carve balsa blocks or laminated ½" balsa to shape for the fuselage rear. Be sure of clearance between top block and the elevator horn. Glue both blocks in place. Drill a hole in the firewall for the fuel line. Install fuel tank of your choice, wedging it in place with glued scrap wood. Tank must not move! Cut cowl block from ½" balsa sheet. Sand or razor-plane to approximate shape, drill hole for tank filler, and glue in place. Fashion a plug to keep sawdust out of the tank filler line.

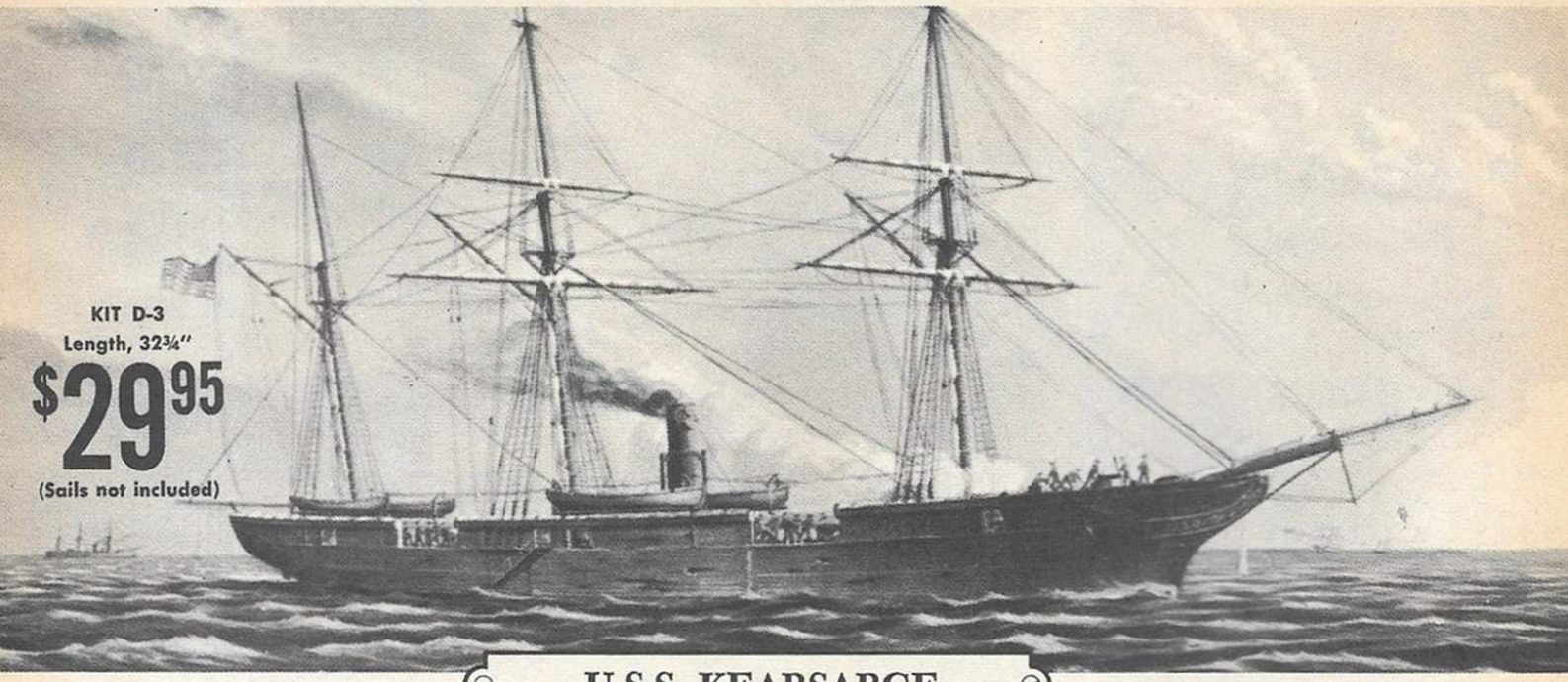
The wing and fuselage are joined next. Be sure to get a good glue joint where former C attaches to the rear spar and center ribs. View fuselage from above, front, and rear before the glue dries, assuring the model looks "right" from every angle. Fuselage bottom behind the wing is planked with 1/16" sheet balsa with grain running spanwise. Fuselage bottom between the leading edge and firewall is planked with 3/32" sheet balsa with grain running spanwise. Don't forget to run a drain line from the tank overflow tube out this planking! Add ⅛" square stringers.

FINISHING

This aspect of model building is up to the individual. Some fellows put forth a maximum effort on every model they build, others consider the usage the model will receive and finish it only well enough to do the job. We should consider that sport models don't get obsolete. Mox Nix is designed to last a good long time, so even if you don't aim for a beauty contest finish, be sure you apply enough dope to keep any fuel or oil residue from ever coming in contact with any bare wood. A smooth model is easier to clean up after flying than one with "fuzz" on it.

Use any combination of fillers and

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Mox Nix #3

clear dope you like, but be sure that before any colored dope is applied, the entire model-wood and silkspan-feels smooth and hard. You should be able to fly the model as it is without colored dope on it. Now apply the color coats. Drill the engine mounting holes and give the engine compartment another couple of coats. You should cover and finish the model without the vertical tail surfaces attached. Dope them separately, then glue to stabilizer tips. Make fillet braces from ¼" balsa strips and glue on bottom of stab to strengthen the joint with fins. Then, dope.

A tailskid may be used. Bend one from 1/16" music wire and insert in tail block. An instrument panel is shown for the open cockpit jobs. Wheels are best held on with soldered washers. If you don't trust your soldering ability use commercial wheel collars. Cut windshield from celluloid. A sturdy installation will result from bending a windshield frame from 1/16" soft wire, using the headrest as a guide. Some builders like a more current looking airplane, will fully enclose the cockpit by placing a piece of celluloid between the windshield frame and headrest.

FLYING

Your Mox Nix will probably balance between the front leadout and leading edge, which is good. A Sport .19 engine, 9x6 prop. and 60' flying lines are a good combination for this flying machine. Take-offs and landings are almost automatic. Have your helper release Mox Nix heading downwind and pointing straight ahead. Don't hurry the lift off; Mox Nix is at home on the ground, too. Roll with neutral or slight down trim, then give her just a touch of "up" elevator. You'll be treated to the sight of the nose rotating up, followed by a smooth, gradual climb out.