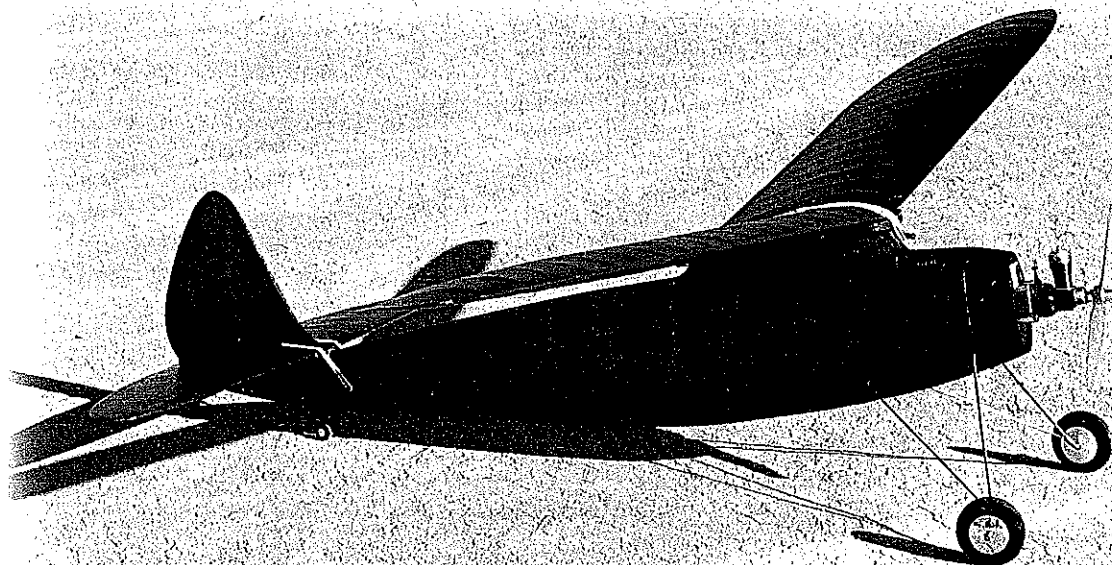


1/2A 1938 BERRYLOID



GEORGE NIEBAUER



Graphic Design by Carla Kunz

The original model was designed in 1937, when I was a sophomore in high school drafting class. Frequent referral was made to the Frank Zaic *Year Books* and other sources for ideas and information.

The late Conrad Hansen and I designed our models for entry in the 1938 Nationals Berryloid Best Finish event. My design had a wingspan of six feet, six inches, powered by a Brown Jr. engine, and weighed less than five pounds. It was covered with silk and had six coats of Berry Brothers red dope sprayed on and rubbed down with Berry Brothers rubbing compound.

At the Nationals, Harold Covert was the first-place winner, Conrad Hansen won second place, and I was third. Conrad and I were members of the Hangar 13 model club in Beloit, Wisconsin.

Perhaps visions of sugarplums danced through my head, but I had a hankering to resurrect this old model for many years. Sixty years after it first flew, the time had arrived.

Because the plans and model were nonexistent, I had some difficulty recalling exactly what the model and its features looked like, but with a few small black-and-white snapshots and the miracle of enlarging photocopyers, I was able to put it all together. I had prevailed!

The only changes I made to this variant was to eliminate 20 stringers; the original had 42! The stabilizer was located at the first rudder rib above the fuselage. Originally both of these surfaces were built into the fuselage as one unit, with outlines formed from 1/16 Duralumin wire. Dethermalizers (DTs) were a rarity in those days, hence the one-piece structure.

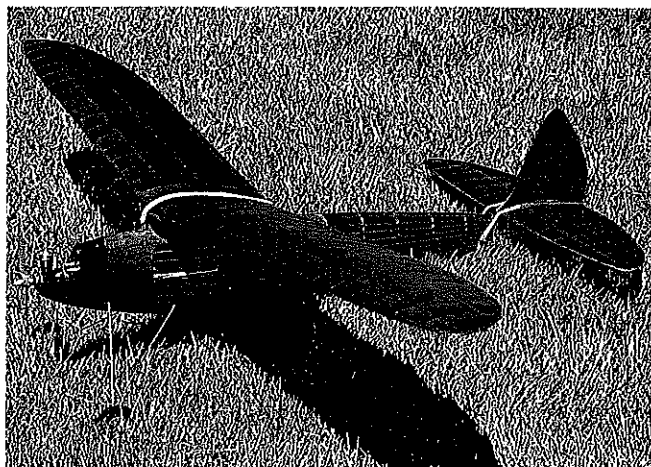
CONSTRUCTION

Study the plans and read the construction article well before

proceeding with building the model. Familiarize yourself with all aspects of construction—especially the fuselage. This is not a building project for the inexperienced, the timid, or those faint of heart.

Use care in the selection of balsa grade and weight, to avoid weight buildup at the aft end.

Fuselage: Photocopy the formers and oil the side view of the fuselage. Use the hot-iron-and-thinner method of image transfer,



This 1/2A version was designed by the author from memory and a few 1930s-vintage black-and-white photos.

splitting down the center (except for F-0) after cutting out. Pin two of each keel piece, K-1, K-2, and K-3, on the side view of the fuselage, one atop the other. Using large T pins, push through both keels straight into your workboard. This is important because the pinholes in the plan and keels will be used to locate and align the keel when building the opposite fuselage half.

Pin the top keel K-3 down, noting that it extends only to the front of F-8, then continues from F-3 to F-0. Pin the bottom keels K-1 and K-2 down but do not glue together at the scarf joint under F-4. Glue the former halves to the upper and lower keels, with the exception of the lower half of F-1 through F-3 to K-1 and the top of F-4 through F-7. Tack-glue the bottom of F-4 at the front of K-2. Former F-0 cannot be used now, because it is one piece.

Referring to former 3 for numbering sequence, use the following for placing and gluing the stringers: Stringers 1 and 22 from F-13 to F-8, then from F-3 through F-0. Stringers 2-8 and 21 through 15, from F-13 and K-2 to F-0, full length. Stringers 9 through 11 and 14 through #12, from the end of K-2 to F-5. Trim to a 45° angle ahead of F-5 to facilitate continuing to F-0 after the landing gear is in place.

Before the stringers are glued down permanently, sight down them to ensure their straightness by cutting away some of the former material. As you build, trim the ends of K-1, K-3 and stringers 6 and 17 at the front of F-0 to give you a square firewall.

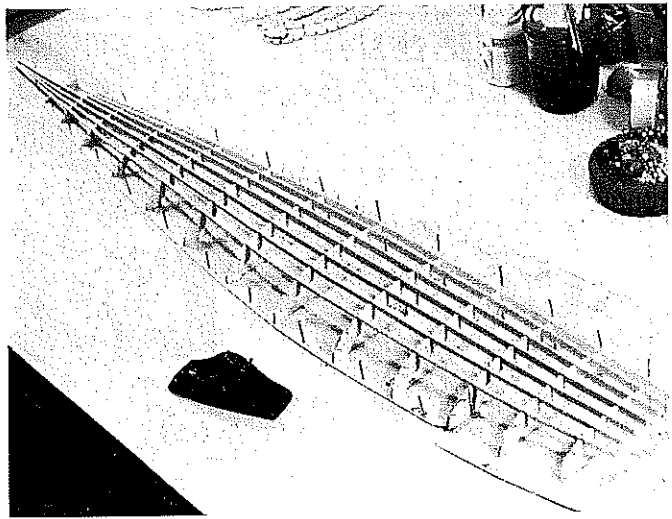
After removing the first fuselage half, flip the plan over. Line up the pinholes in the keels with the pinholes in the plan. Install formers as you did on the first half. Remove from the plan and glue the halves together, leaving off K-1 and F-0. Epoxy one former doubler F-1a to the rear of F-1 with the half groove facing aft.

Landing Gear: Form the landing gear struts and solder. Solder a ¼ OD washer to the inner side of each axle. Snap the completed landing gear into the grooves of F-1a and F-4. Using slow setting epoxy, glue the second doubler to the rear of the first F-1a doubler, and glue doubler F-4a to the front of F-4, using the bolts as clamps.

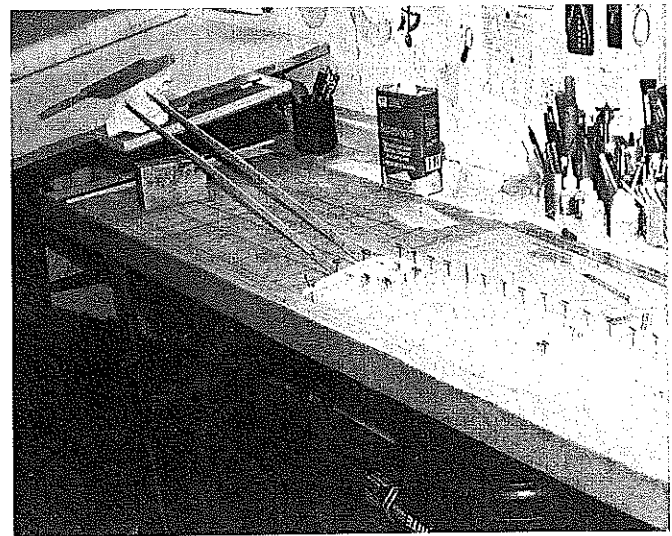
If you are building this model for the SAM (Society of Antique Modelers) ½A Texaco event, and will be using a Cox .049 engine, drill four ⅛ holes for 2-56 blind nuts in F-0, and epoxy the nuts in place.

Insert F-0 sideways, straighten and pull forward, flush with the cuts you made in the stringers. Glue K-1 and K-2 together and into the bottom groove of the formers, but do not glue F-0 in place yet.

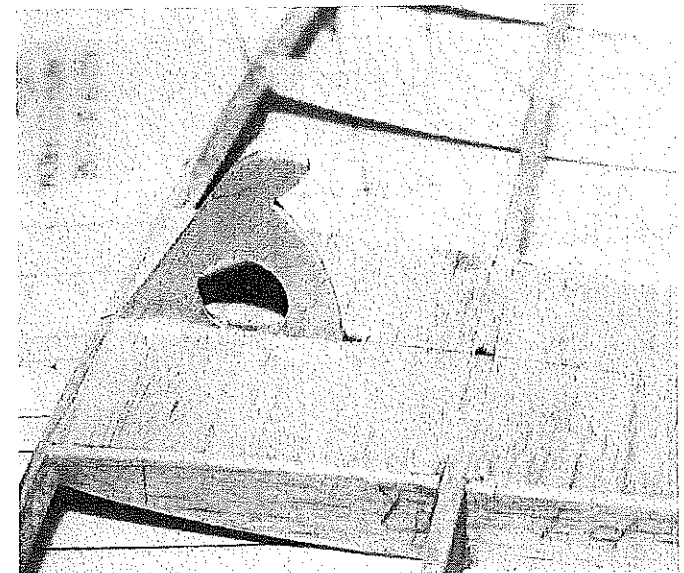
To establish squareness of F-0 vertically and horizontally, place the fuselage on the plan above the centerline and the front of F-0. Put a five-inch-long block ahead of F-13, moving it so that the measurement of the horizontal centerline on F-0 is the



Right fuselage half under construction. Stringers were placed to allow room for landing gear installation.



Right wing panel has been framed out. Wing spars are prebuilt and the trailing edge was laminated on the prototype.



Plywood stabilizer locating tongue in place. The original stab had the solid spar shown; modified in redesign.

1938 BERRYLOID 1/2A REPLICIA

Type: FF ½A Texaco

Wingspan: 54 inches

Engine: ½A reed valve

Flying weight: 20 ounces

Construction: Built-up

Covering/finish: Lightweight silk and butyrate dope

PRECISION FIBERGLASS

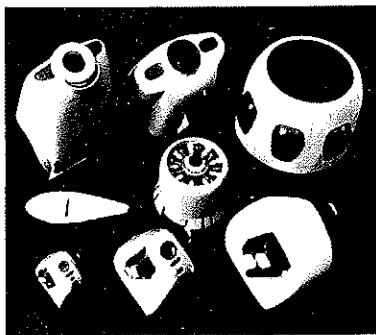
PROD. CO.

- Hundreds of cowls, radial cowls & wheelpants
- Strong, lightweight, one-piece construction.
- Exact duplicate of manufacturer's original.

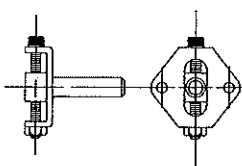
Phone orders and information call 423-984-0828
9 a.m. - 6 p.m. EDT



Send \$1.00 for catalog. (\$2.00 Outside U.S.)
Dept. 3
2805 Big Bend Dr. • Maryville, TN 37803



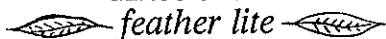
PLUG-IN WING ADJUSTER KIT



4-Pack
(for both wing panels)
\$12.95

New and Improved Wing Adjuster. Very strong and rigid, but also light weight. Use two adjusters for each wing panel to key the panel to fuselage, allowing quick and accurate alignment for straight flight

GLASS CLOTH



- .7 oz./Sq. Yard
- Fastest Filling
- Closest Weave
- Lightest Finished Weight
- Includes Detailed Instructions.

Big 3 Square Yard Pkg. \$8.95

WING TUBE AND SOCKET SETS

Aluminum alloy tubing for plug-in wings. Includes special slip-fit phenolic sockets to build into wing panels. Special lengths to order.

7/16" dia. x 2 ft' (precision fit sockets)	\$6.95
5/8" dia. x 2 ft' (precision fit sockets)	\$10.95
7/8" dia. x 2 ft' (precision fit sockets)	\$11.95
1-1/4" dia. x 2 ft'	\$9.95
1-1/2" dia. x 3 ft'	\$14.95

PLUG-IN ADJUSTABLE STAB KIT



Now you can optimize stab incidence for best flight characteristics! A pair of glass-filled nylon adjusters are included that provide for simple and quick micro screw adjustment of the smaller front stab tube. Main tube is alloy aluminum with matching phenolic socket.

Complete Package \$9.95

GATOR

R/C Products, Inc.



VISA/MasterCard Welcomed!



\$6.50 per item S&H

2100 N Old Mill Rd
Brookline, MO 65619
Phone 417-725-7755

same as the distance from your board as it is to the top of K-2, where it comes to a point 3 1/2 inches to the rear of F-14.

Glue the remaining stringers and keels to F-0 after continuing those that were left off for installation of the landing gear.

Pylon: The pylon is carved from a block of four- to six-pound balsa, 1 3/8 x 2 1/2 x 10 3/8. Using a table saw, saw the block in two vertically. Glue together with paper between and a few spots of model cement.

Using a band saw, cut to shape of the side view. Trace the bottom and top exterior shape. Saw to the shape of the bottom, carve, blending into the outline of the top, noting that the sides of the pylon are left vertical where they fit into the formers. (See pylon sections on the plan.) Trace the bottom and top interior shapes. Split the block apart and sand the paper off. Carve the interior to 1/8 or 3/16 thickness, max.

Use a table saw to cut the dihedral angle into the top of each pylon half. Glue together permanently. Insert the pylon, checking the incidence against the thrustline. Glue the pylon permanently into the fuselage. Form the wing mount and glue in place.

Tail Block: The tail block is made from a block of soft balsa 1 1/8 x 1 3/8 x 7 1/4. This should be of lesser density than the block for the pylon; weight is a problem at the aft end. Cut the block in two vertically. Glue together as you did the pylon.

Trace the side view and cut to shape. Trace the outside shape of stringers 6 and 17 aft of F-13 after they have been trimmed to 1/16 above the formers, to the bottom of the block. Trace the shape of F-13 to the front of the block after stringers 1 through 5 and

The World's Best 1/2-A R/C Laser Cut Kits

Star-Cruiser

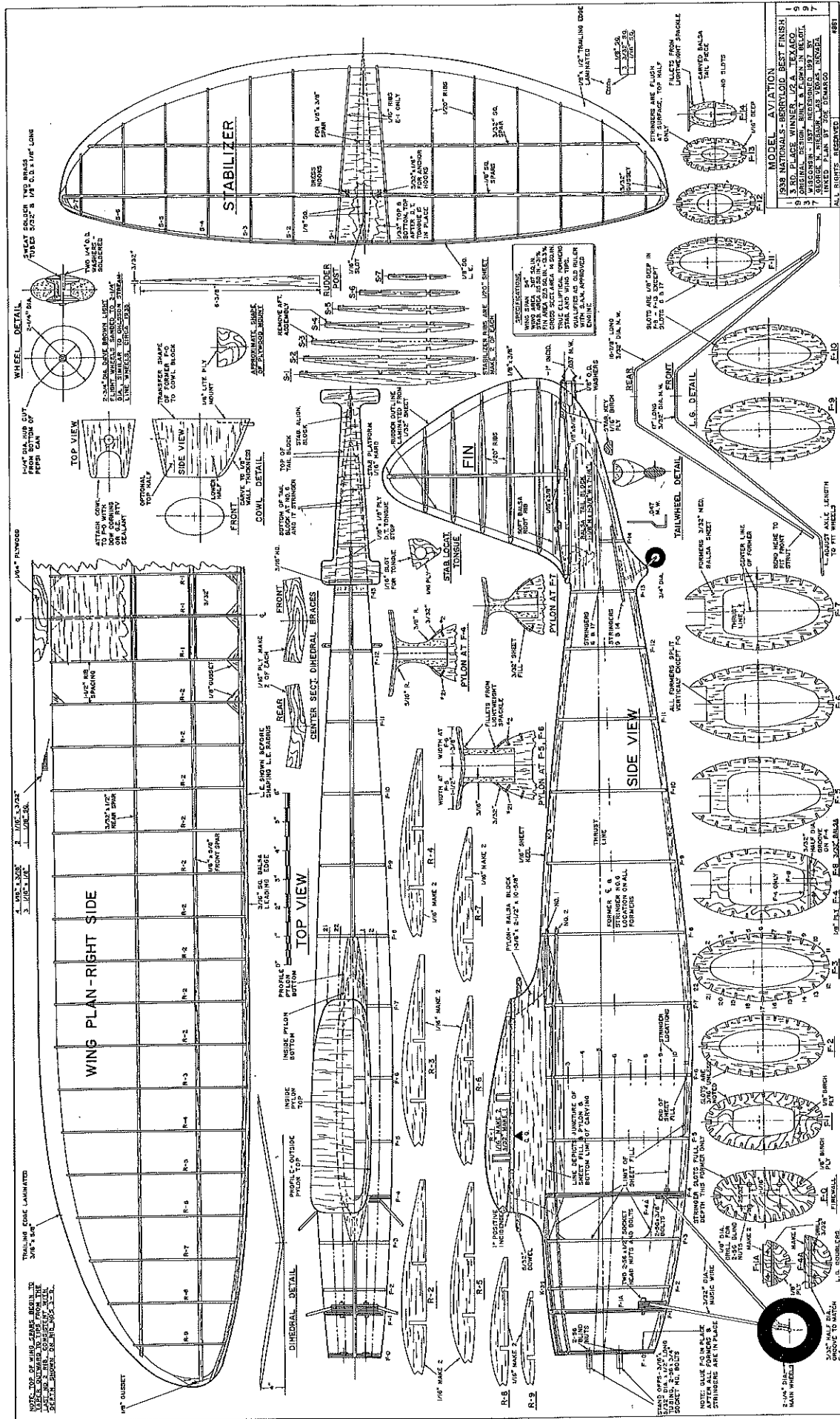
Sport / Trainer
K-503

Wingspan = 42"
Area = 267 Sq."
Weight = 17 oz.
Wing Loading = 9.17 oz./Sq."
.049 to .061 Engine
2 or 3 Channel
Made in the U.S.A.

Big airplane performance on a small model budget

The Star-Cruiser's quick building and excellent handling make this model a great choice for the beginners as well as the sport flyer. With tricycle landing gear and a steerable nose wheel, the Star-Cruiser's superior ground handling produces easy take-offs and landings. A removable hatch gives instant access to the fuel tank for simple installation and servicing. Its computer designed High-Lift airfoil gives the Star-Cruiser outstanding performance while providing solid stability. This fine model will provide hours of big airplane enjoyment on a small model budget and allows no hassle transportation to and from the flying field. This outstanding kit features all wood construction, Laser Cut Parts, Tab and Notch construction for quick and accurate assembly, 3-D Cad design for precision parts fit, Quality hardware pack, Computer drawn plans, Peel and stick window decals and a Complete step by step instruction manual. Available at finer hobby shops around the world.

Herr Engineering Corp.
1431 Chaffee Dr., Suite 3
Titusville, FL 32780
(407) 264-2488
The world's leader in Laser Cut model aircraft
WWW.IFLYHERR.COM

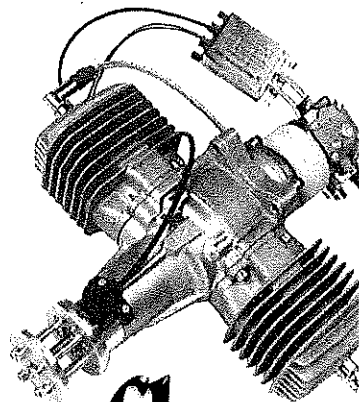


MODEL AVIATION

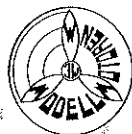
1	ISS NATIONALS - BENTONITE BEST FINISH
2	ISS NATIONALS - BENTONITE BEST FINISH
3	ISS NATIONALS - BENTONITE BEST FINISH
4	ISS NATIONALS - BENTONITE BEST FINISH
5	ISS NATIONALS - BENTONITE BEST FINISH
6	ISS NATIONALS - BENTONITE BEST FINISH
7	ISS NATIONALS - BENTONITE BEST FINISH
8	ISS NATIONALS - BENTONITE BEST FINISH
9	ISS NATIONALS - BENTONITE BEST FINISH
10	ISS NATIONALS - BENTONITE BEST FINISH

ALL RIGHTS RESERVED

Escape from the Ordinary



fly 3W



3W engines - top contenders in:

- Tournament of Champions
- I.M.A.C.
- Unlimited Air Racing

3W 120iB2

\$1350.00

Specifications:
12.5 Horsepower
8.5 Lbs.
7.29 Cubic inches
28x10 Prop

NEW

For '98

The rear induction, carbon fiber, reed valve engine!!

43% G-202 114" span - Will be flown by Wolfgang Matt at 1998 T.O.C.!!!
Giles 202 ready to cover - \$1995.00
COMBO price w/3W120iB2 - \$3195.00

TECH & WARRANTY SERVICE AVAILABLE



North American Importer for:

3W - Modelmotors

10380 E. Heritage
Tucson, AZ 85730

Phone / FAX 520-724-4087

Visit us at www.pdlink.com/aeris



menz
Ultra & S-Series Props Available

18 through 22 have been trimmed flush with its top half.

Trace the top of the block and saw to this shape. Carve the outside from the top, blending into the bottom where it meets stringers 6 and 17 and the top half of former 13. Split the block apart and sand the paper off. Hollow the inside as much as you can, maintaining structural integrity. Glue together and to the fuselage.

Cut the stabilizer mount from hard 1/16 balsa. Glue to the curve made when you cut the side view to shape. It will have the one-degree negative incidence built in. Shape the leading edge/DT stop and glue to the front of the stabilizer mount. Cut a 1/16 slot into the front of the stabilizer mount to accept the locating key. Do not neglect to include the 1/16 plywood strip at the aft end of this slot, gluing in place with epoxy.

Add 1/16 sheet fill between the stringers around the front of the fuselage but use 3/32 sheet between the first four stringers at the top and bottom to maintain the curvature of the fuselage. Plane and sand the fill and stringers to a smooth contour.

Continue to the rear of the fuselage, allowing the stringers to project 1/16 above the formers except at F-13, where they are flush. Use sanding sticks of varying radii to sand some former material away between the stringers to prevent the covering from adhering.

Form filets from lightweight spackle with a little thinner added. Apply under the wing mount and the bottom of the pylon where it meets the sheet fill and stringers 1 and 22. Also apply under the stabilizer mount.

Give the entire fuselage several coats of nitrate dope. If you have a firm grip, you may consider addition of 1/8 x 1/4 bracing between the formers at their widest point, to avoid crushing.

Pod and Tail Wheel: The tail wheel pod is made from lightweight balsa. Cut away the keel and stringers 10-13 between F-13 and F-14. Trim the block to fit between the formers and stringers 9 and 14. Saw in

half and glue together as on previous carvings. Carve the outside. Using lightweight balsa will preclude the need to hollow the block, because the pod would become weakened.

Bend the axle/strut from .047 music wire to the shape shown. Split the pod and sand off the paper. Place the strut in position and squeeze, creating an indentation. Glue together, adding the 3/4 tail wheel.

Wheels: Freeze the wheels and sand to 2 1/2 inches in diameter. Duplicate the profile shown on the drawing. Cut the hubs from soda-can bottoms by punching or drilling a hole to fit the centering point of your compass. Insert into the hole and scribe a 1 1/4 diameter circle. Cut the hub out. Assemble the hubs to the brass bushings with washers and solder, avoiding lengthy heating to prevent the plastic wheel hubs from melting.

Empennage: Lightness is the key for this area.

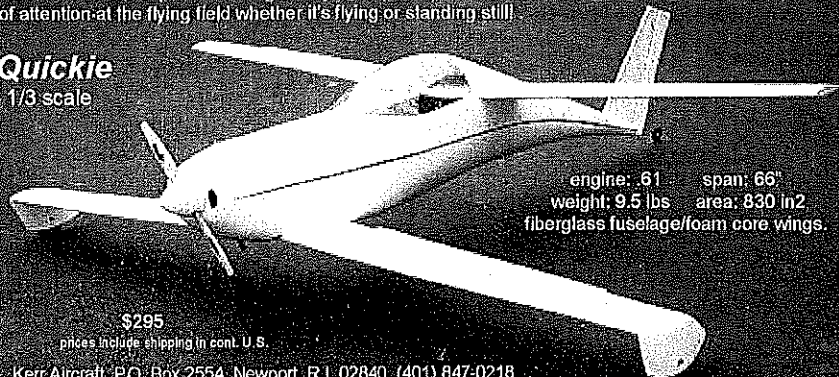
The stabilizer is of conventional construction, except for the laminated trailing edge. Cut a pattern from 1/4 Masonite™. The wood strip size is shown on the drawing. Use thinned white glue and large T pins to hold the strips in place while drying. The 1/32 sheet on the bottom center section is positioned after the structure is built.

Glue the two 1/8 square pieces of balsa behind the leading edge. Cut a 1/16 slot long enough for the stabilizer locating tongue. Make this a tight fit to help hold the tongue in place tightly while locating to ensure a 45° DT angle. If the angle isn't steep enough, sand a small amount from the nib on the locating tongue. Epoxy in place after you're satisfied with the angle.

The fin has laminated edges. Cut a template from Masonite™. Assemble the ribs in strips and shape to a streamlined airfoil after they are dry. Glue the fin in place. Fit the soft balsa root rib in place and cement. Form filets where the fin joins the stabilizer, as you did on the wing and stabilizer mounts.

This is a stable, responsive and great flying airplane. The Quickie is guaranteed to be the center of attention at the flying field whether it's flying or standing still!

Quickie
1/3 scale



engine: 61 span: 66"
weight: 9.5 lbs area: 830 in2
fiberglass fuselage/foam core wings.

\$295

prices include shipping in cont. U.S.

Kerr Aircraft, P.O. Box 2554, Newport, R.I. 02840 (401) 847-0218
e-mail: kerrai19@idt.net web: <http://idt.net/~kerrai19>

Wing: The wing has a laminated trailing edge. Cut a Masonite™ template of the trailing edge from the last rib R-2 out to the tips. I chose to laminate the entire trailing edge from the tips to the center section; however, you can make the straight portion from tapered stock for simplicity.

Cut 1/16 notches for the ribs. Note that the tops of the spars taper consistently with their depth in the ribs, beginning with rib R-3. The 1/4 square leading edge stock is soaked and pinned in place to dry before gluing.

Finishing Up: Downthrust and right thrust may be incorporated into the standoffs by making them shorter.

The DT limit line is made from heavy monofilament fishing line, lightweight braided metal fishing leader, or wire such as Control Line leadout material. Form a loop at each end, small enough to be forced over the washers on the DT hooks but will not slip off easily. Make sure the line is long enough to give you 45° of stabilizer angle. Key the wing to its mount by gluing the keys to the bottom of the spars.

Flying: Balance the model at 35%, 4 7/8 inches ahead of the trailing edge. (My model required some nose weight to achieve proper balance.) Washin (1/8 inch) was built into the port tip.

The first flight had a rich needle valve setting, and went out-of-sight of my tired old eyes. Thanks to my fellow fliers, the VAMPS, who kept it in sight and chased it down for me. Succeeding flights improved (with a more-lean needle-valve setting) but the climb out was too dramatic for 1/2A Texaco competition; it should be tamed down for maximum performance in that event.

If you choose to build my recollection of this scaled-down model, I'm certain you will feel rewarded with a sense of accomplishment not felt every day in a modeler's life. →

George Niebauer
1405 E. Vegas Valley Dr. #281
Las Vegas NV 89109

Sources

Lightweight spackling for fillets:
Patch-N-Paint
Custom Building Products
Seal Beach CA
(310) 598-8808

Lite Flite wheels, main wheels:
Dave Brown Products Inc.
4560 Layhigh Rd.
Hamilton OH 45013

Smooth-contour wheels, tail wheel:
Williams Bros.
181 Pawnee St.
San Marcos CA 92069

ELECTRONICS FOR THE DISCERNING MODELER...

RELIABLE IDLE... NO HASSLE!

You line up your aircraft for a long, slow approach...



There's no fear of flameouts,
GlowLite's onboard!

It doesn't get better than this...

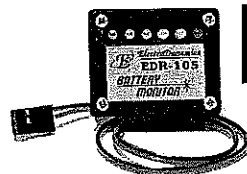
Enjoy RELIABLE, S-L-O-W idle, PLUS...
EASY, SAFE starts!

Singles, Twins. NO Interference!
Works with all Rx's. Light! Less than 35 grams. Ultra-simple installation!

ONLY \$39.95!

Don't take off...
...WITHOUT IT!

EDR-105 BATTERY MONITOR



ONLY \$29.95!

peace of mind...

It's as easy as 1 - 2 - 3!

- 1 Install the Battery Monitor into an unused channel...
- 2 Switch on your Rx...
Green LED's, GO FLY!
- 3 Yellows, re-charge...
Red, Check Battery!

Installing servos the
FRUSTRATING, OLD way?
You gotta have one of these!



Breeze thru controls setup!

Install servos and linkages
WITHOUT Tx and Rx!

BETTER than "knob" and "stick"- type servo drivers...

Find your servos' electrical center with computer accuracy!

It's MUCH MORE than just a
SUPER Servo Driver!

Detect bad servos...

BEFORE they cause problems!

ONLY \$44.95!

Split Elevators, but...
your TX WON'T?

EDR-106 Pro Servo Reverser



It's EASIER than
1 - 2 - 3!

- 1 Plug your servo into the Pro Servo Reverser
- 2 Plug the Pro Servo Reverser into your Rx
- 3 Wow! You're done!

- No messy adjustments!
- No Jitter, No Drift or Neutral Shifts!
- Fuelproof, Vibration proof!

ONLY \$29.95!

ElectroDynamics

31185 Schoolcraft, Livonia, MI 48150
Website: <http://www.electrodynam.com>

1-800-337-1638 (Orders)



Info: 1-734-422-5420
Fax: 1-734-422-5338



BROKEN ENGINE?

K&B Aero & Marine Engines
Rebuilt • Repaired • Updated

K&B can make your engine like new again; all you need to do is send it to us. Your K&B engine will be repaired with original parts. Labor charge from \$7.50 - \$12.50

K&B
MANUFACTURING

520-453-3579

2100 College Drive
Lake Havasu City, AZ 86403

NOTE: Some engine may not be serviceable due to age or condition, so please call before sending in your engine.