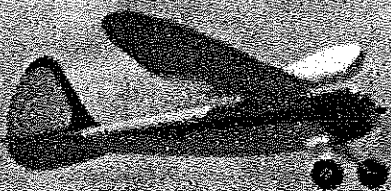


746

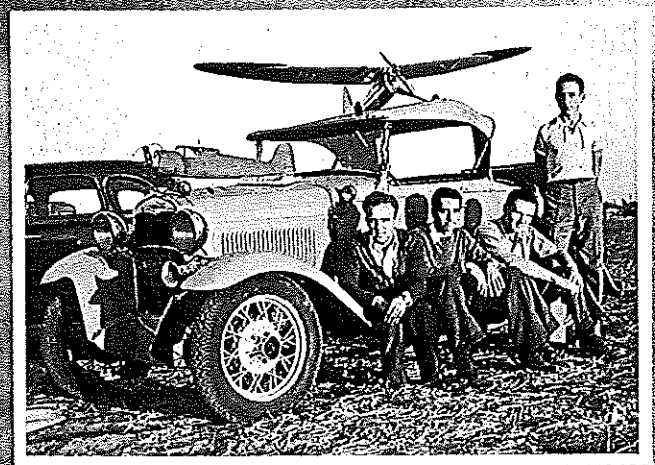
KC CLIPPER

REVISITED

■ **Keith E. Dentel and William R. Murray**
A 50-year-old photo
of the author's original FF model provided
inspiration for a new RC version



Below: The original Kansas City Clipper and ground crew, circa 1937. Right: More than 50 years after the final flight of the original model, Bill Murray (Temple, TX) built the new Clipper. ASP .61 power.



The saga of the Kansas City Clipper began in the early days of modeling. Many of us in the Kansas City area were successfully designing and flying rubber-powered models in the late 1920s and early 1930s. It was very difficult to afford one of the new gas model engines in the Depression years, but I managed to get one of the first Ohlssons.

I designed and built my first gas model in 1936. It had an eight-foot wingspan and was powered with my new Ohlsson .60. I had some good flights from that first design, but disaster struck one windy day at Old Richard's Field, just outside Kansas City. Others patiently stayed grounded, but I flew! It headed straight into the wind and lifted like an express elevator; then, at about 150 feet, it suddenly nosed over, came roaring straight down, and plowed in. It was a total loss, and the crankshaft on my new Ohlsson .60 was bent! How I wished that I had waited for better wind conditions as the others had, or perhaps adjusted the trim a bit. Too late—it was gone.

Like the mythical Phoenix, the Kansas City Clipper concept emerged from the shattered remains of that first gas-powered model. Shortly after that fatal crash, the design was conceived and I made my final drawings in early 1937. The three-views really looked good—it wasn't boxy, like most of the early designs.

The planked oval-cross-section fuselage and elliptical outer wing panels made for some fairly difficult construction, but in spite of that I finished the Kansas City Clipper in 1937. It was covered with silk, clear doped with black trim, and finished with two coats of Packard car cream lacquer.

The model weighed in at just under six pounds, and the repaired Ohlsson .60 provided sufficient power for gentle climbs. Stability was excellent, and flights concluded with a good flat glide slope.

I built the wing in three sections, and the landing gear plugged in, which made it convenient for packing and shipping. My folks shipped the model to me in Burbank, California, where I had gone in 1938 to complete my aeronautical engineering studies.

The Clipper's last flight was in 1939, with an eyedropper more gas than I should have used. It climbed at its usual gentle angle and headed southeast. I knew right away that a chase was necessary, so my buddy and I cranked up the old Model A and followed as best we could, but we lost sight of it.

We continued in the general flight direction, where we spotted a crowd. Sure enough, it was the Clipper—it had glided into the side of a garage with no damage to anything or anyone, except that the engine and firewall bulkhead were pushed back into the fuselage. Not too bad, all things considered.

The Kansas City Clipper was later disassembled, boxed, and shipped back to my folks' attic in Kansas City; later, it went to my attic in Falls Church, Virginia. I restored it in 1988 and offered it to the AMA Museum, where it now resides in all of its original splendor.

Bill Murray of Temple, Texas will continue the saga of the Kansas City Clipper, and tell you how he rediscovered it in late 1989:

I became acquainted with Keith in late 1989. We continued our acquaintance by letter and phone, and we exchanged photos of models that we had built.

One was the Kansas City Clipper—it struck my fancy, and I wanted one very badly! It was an eye-catcher and was ahead of its time. I didn't know at the time that I was about to start one of the most interesting and rewarding projects that I have ever undertaken.

After seeing that picture of the Kansas City Clipper, I phoned Keith and told him that I just *had* to build one, and I was leaning toward a radio-controlled version. When he told me that he had a

quarter-scale three-view drawing, I was elated. That was all I needed to get started, and start I did.

I decided that the original lines had to remain essentially unchanged, but some construction changes would be required—most notably, movable control surfaces. Another obvious requirement would be access to install and service the radio gear, as well as a fuel tank. I also wanted to beef up the fuselage to withstand occasional bumpy landings.

None of these contemplated modifications would change the model's appearance or airworthiness, so I got started on detailed full-size plans. At last I was ready to get this jewel underway!

This is not a beginner's project, but I'll wager that most modelers can get the Kansas City in the air. Many will welcome a change of pace and the challenge of doing something different.

GENERAL CONSTRUCTION NOTES

I used tracing paper to copy parts from the plans, and attached the tracings to the wood with 3M spray adhesive. The paper peels off after cutting, at which time the parts should be numbered or otherwise identified. You could kit the entire model before construction begins.

Adhesives: I used cyanoacrylates (CyA); epoxies with six- to 45-minute working times; sandable aliphatic-resin glue, and Sig-Ment model airplane cement.

The usual assortment of tools were employed. Some of my favorites are:

A Zona saw that has a detachable 4½-inch blade without a stiffener across the top: You can rip saw with it, and it was just the thing to saw the access hatch from the fuselage.

Straight pins of all sizes: I got them from a yard-goods store. The little fine ones are thin and sharp, and rarely split small pieces of balsa. Rocket City Pin Clamps came in handy, too. A good stock of single-edge razor blades and #11 X-Acto blades: I always use a sharp blade.

Strips for laminating were soaked in ammonia water. I then used aliphatic-resin glue and bent the strips around an outline of pins previously placed over the plans. These strips were pinned in place and allowed to dry.

Leading edge curves were sanded to rough shape prior to assembly.

Fuselage Jig: Make jig blocks from 2 x 4 scraps. Cut six pieces six inches long; the ends must be square, as they will be set on end to block up the fuselage many times during construction.

(Since a 2 x 4 actually measures 1½ x 3½, two of the fuselage jig blocks can double as dihedral supports. Cut a ½ x 1¾ slot in the middle of two blocks, and cement a ½ x ¼ x 6 balsa strip on one to raise the height to 1½ inches—just right to block the inside wing panel up for proper dihedral.)

Cut five pieces 1 x 6 from scrap ¾ plywood. These building aids are used in conjunction with the jig blocks to prop up the fuselage. Photos show this arrangement.

The fuselage must be blocked up on the crutch many times during construction to dry-fit various components. The top of the crutch (side longerons) is the thrust line, and it should be level to check wing and stabilizer incidence.

To achieve this, I put two of those 1 x 6 building aid sticks on top of the crutch, between bulkheads, so that they projected beyond the fuselage enough to put a nine-inch carpenter's level on them. After leveling the crutch, I checked the incidence with a Robart meter.

FUSELAGE CONSTRUCTION—PRELIMINARY

Bulkhead notches need to be sized accurately; the longerons should fit snugly, to facilitate fuselage assembly. To meet this requirement, I made several notch sanders from ¼ square hard balsa



Completed model had yet to be flown at the time of this photo. Iron-on fiberlike covering was used to simulate the silk covering of the original model. K&B Super Poxxy trim.

and $\frac{1}{4} \times \frac{1}{2}$ hard balsa scraps about four to five inches long. Sand them down a bit to compensate for sandpaper thickness; glue sandpaper to three sides. These do a great job on bulkheads (and on ribs). The desired snug fits were rewarding.

The bulkheads, sub-fin, and rib doublers were cut from Lite Ply. Birch plywood was used for the firewall, pylon and other plywood parts. I also used $\frac{1}{2}$ and $\frac{1}{4}$ plywood in some places. The fuselage top and bottom longerons were cut to shape from $\frac{1}{4}$ hard balsa sheet in one continuous length. They are both $\frac{1}{2}$ -inch deep, to fit in the bulkhead notches.

Control Linkages: I used Gold-N-Rods with blue sheaths for rudder and elevator; cable and tubing for the throttle.

Before laminating the firewall, cut the slot for the landing gear (LG) platform in the $\frac{1}{8}$ -inch plywood. When the epoxy cures, drill and install blind nuts for the motor mount; drill holes for fuel lines and throttle tubing. Shim the motor mount for about two degrees right and down thrust.

Finish LG supports, including brass tubing. Epoxy the rear support and triangle-stock bracing to BH 3. Epoxy the front support to the LG platform. Epoxy balsa stiffeners to the top of BHs 3, 4, and 5.

Using BH for a pattern, outline a reinforcement area on $\frac{1}{4}$ plywood. Cut and epoxy these doublers to both sides of BHs 4 and 5.

Using BHs 3 and 6 for patterns, outline

hatch formers 3A and 6A on $\frac{1}{8}$ Lite Ply; cut and sand to exact match, and lay aside.

Pin the top and bottom longerons over the plan; mark and number each BH location on the sides and tops. Remove.

Make the fuselage crutch from side longerons and temporary crosspieces by pinning $\frac{1}{4}$ square hard balsa strips over the top view of the fuselage. Make vertical razor saw cuts in longerons where they bend inward at BH 8 to weaken them a bit. They will bend easier and not bulge beyond that point. Force epoxy in the cut to restrengthen it.

Fit the longerons at the rear and CyA them. Cement $\frac{1}{4}$ square balsa crosspieces just behind the firewall, BH 4 and in front of BH 8. Remove after the fuselage is built. Mark and number each BH location on the side and top of both longerons. Remove—it should hold its shape.

FUSELAGE ASSEMBLY

Begin by hand-holding the tee crutch and dry-fitting BHs 2 through 13A. The firewall is added later.

The crutch longerons are parallel from the firewall to BH 8. Beyond BH 8 the longerons taper, and it is easier to slip BHs through the crutch, engage the notches with the longerons, and slide them back to their marked positions. The half-BHs beyond BH 13A are added later.

Trial-fit the top longeron. A $\frac{1}{4} \times \frac{1}{2}$

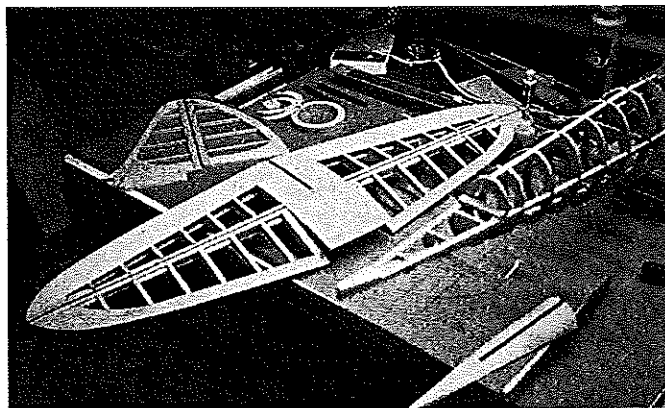
temporary longeron is required to maintain BH alignment at the top front, from the firewall through BH5, where the pylon eventually goes. You now have a top longeron from the firewall to BH 13A.

Place this assembly top-side-down over the plans. Put one 2 x 4 jig on the fuselage top view just behind the firewall, with a slot straddling the fuselage centerline. Put the other jig between BHs 7 and 8, positioning it the same way.

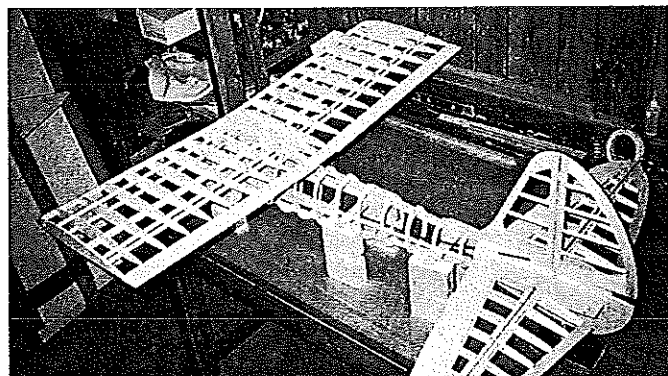
Remove the top longerons and lay the crutch on the jigs with the top next to the plans, and replace the top longerons with jig slots straddling them. Be sure that the BHs are at their marked positions on the permanent top longeron.

Anchor the jigs, align the crutch with the top view of the fuselage, and pin it to the jigs. Put 2 x 4 blocks on each side of the crutch between BHs 12 and 13 and push them until the top longeron is sandwiched. Check fuselage alignment with the plans, the anchor blocks and the crutch. The fuselage now should be firmly in place, bottom-side up. The worst is over!

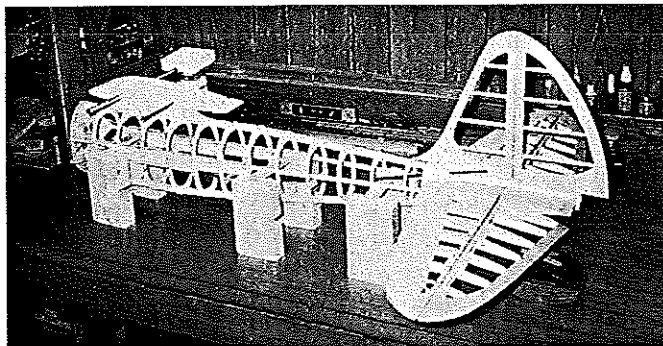
Align the BHs perpendicular to the crutch. Put the half-BHs (14 through 16) in place and dry-fit the bottom longeron. With everything in place, it's time to CyA all



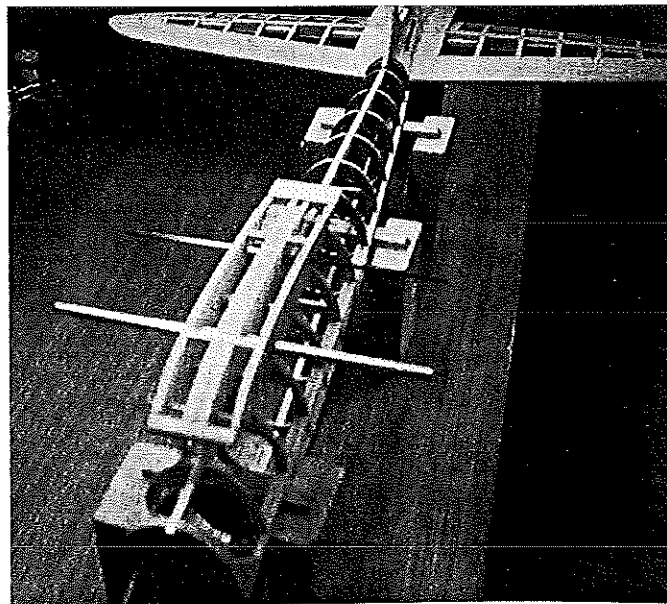
Empennage components and saddle pieces on fuselage stab/elevator platform. Hatch formers and rails in background.



Positioners that support the front wing rod tubing can be seen in this view of the inner wing panels.



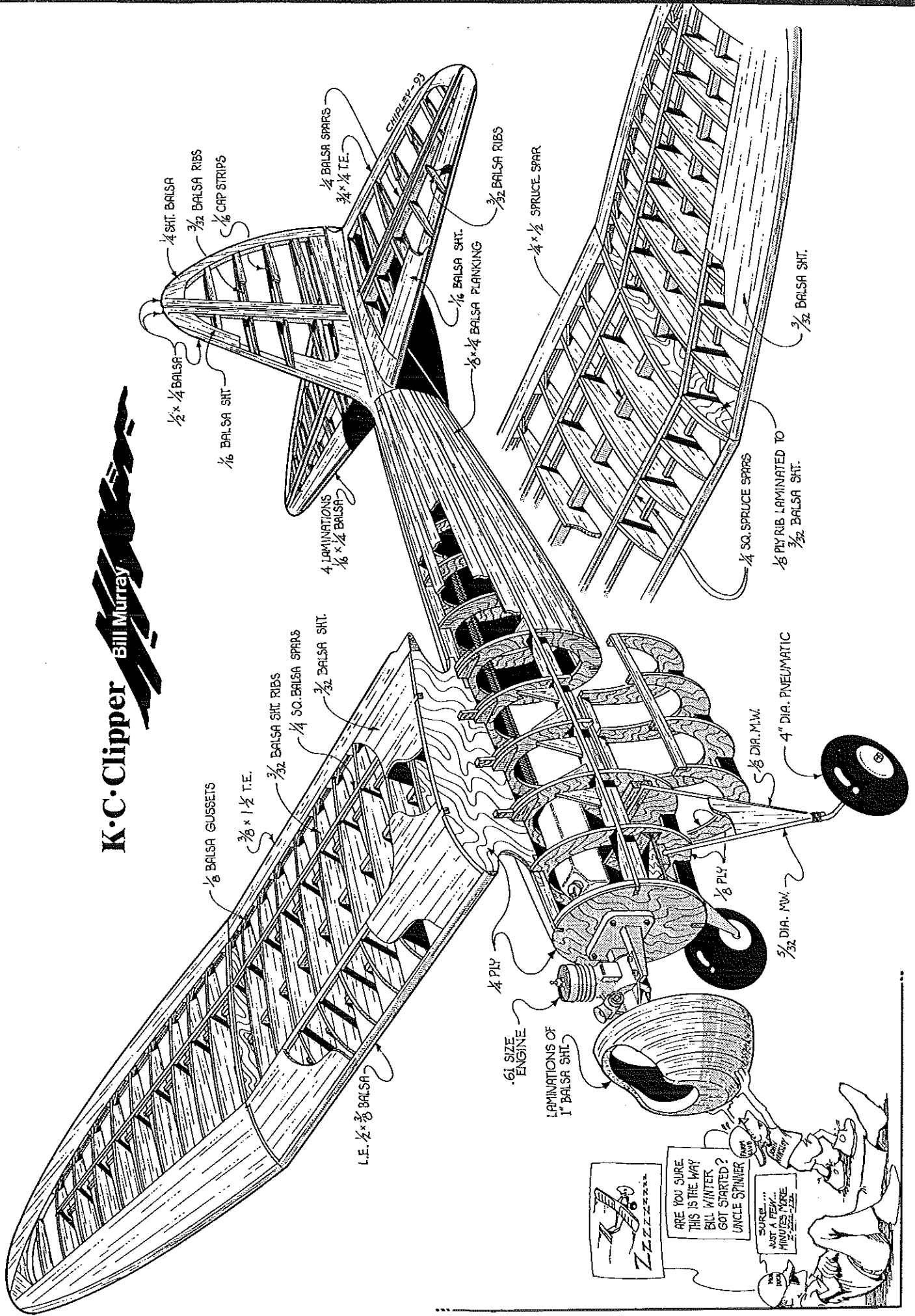
Empennage and wing center section have been dry-fit at this point. Note use of jigs to support and align the fuselage.



Backs of side longerons have received $\frac{1}{4}$ -inch-square balsa between bulkheads as part of fuselage beef-up process.

K·C·Clipper

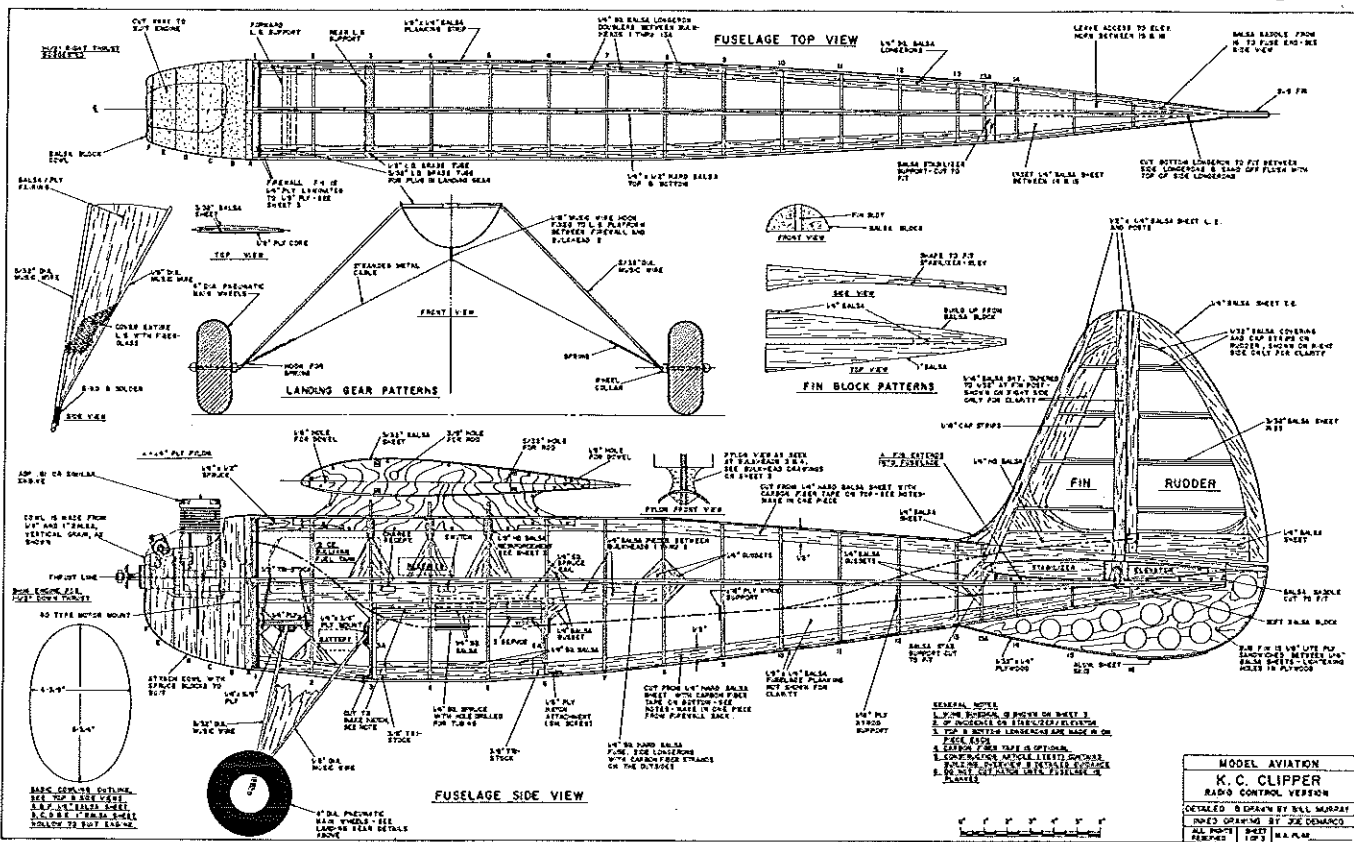
Bill Murray



ARE YOU SURE
 THIS IS THE WAY
 BILL WINTER
 GOT STARTED?
 UNCLE SPINNER

SURE...
 JUST A FEW...
 MINUTES MORE





MODEL AVIATION
K. C. CLIPPER
RADIO CONTROL VERSION
DESIGNED & DRAWN BY BILL MURPHY
INPED DRAWING BY JOE DEMARCO
ALL RIGHTS RESERVED
PRICE \$2.00

joints except the temporary top longeron. Keep the fuselage anchored in place!

As you position the firewall, slip the LG platform into the slots in the back of the firewall and in BH 2. I used 45-minute epoxy; that gave enough time to accurately align the firewall with no offset.

When the epoxy has cured, add the triangular bracing and gussets at the firewall and BH 2. Servo rails can be added at this time. Remove the fuselage and admire!

Planking: Here is where the fun begins. Use 1/8 x 1/4 balsa strips. Start with one strip over each longeron, then alternate with one or two strips on either side of the side longerons.

After there are five or six strips on each side, add about the same number on the top and bottom. This balanced approach will prevent the fuselage from being pulled out of shape.

I used Sig-Ment between strips, and CyA to attach the strips to the bulkheads. A fairly large sanding block is needed to achieve a smooth finish; fill any low spots with Model Magic.

Omit one planking strip on each side of the pylon slot. Fill in after the WCS/pylon assembly is epoxied to the fuselage.

Access Hatch: Install and cement end formers 3A and 6A; shim with 1/32 balsa scraps to simplify removal later. The same applies to the hatch top rails.

When the fuselage planking is finished and sanded, saw the hatch from the fuselage. Begin sawing in the vertical gap between BHs and hatch formers after two or three planking strips are in place and the cement is set. This keeps the sawing gap accessible and keeps it from becoming clogged with cement.

Do not saw the topmost planking strips at

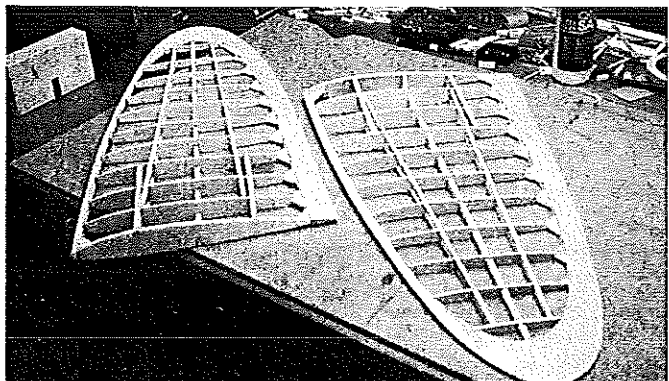
this time; they help hold the hatch firmly in place until it is completely separated from the fuselage.

Keep the horizontal gap between the hatch and fuselage accessible for sawing. When the hatch is finally separated from the fuselage, piece in any planking missing from this area on either the fuselage and/or hatch.

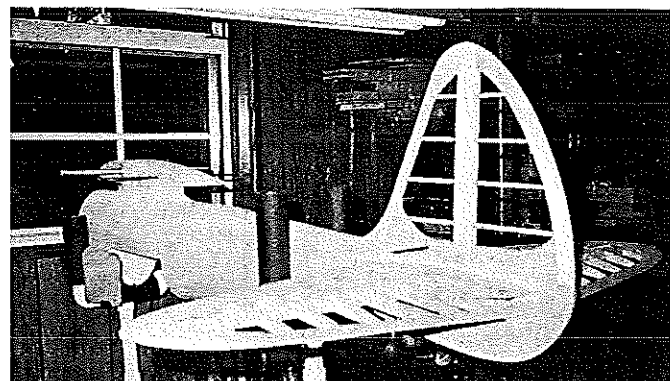
Remove the hatch after the fuselage is planked and sanded to shape. Add 1/32 balsa sheet to the ends of the hatch formers and top rails to compensate for the 1/32 gap built in for sawing. Sand to a snug fit.

Cowl construction details:

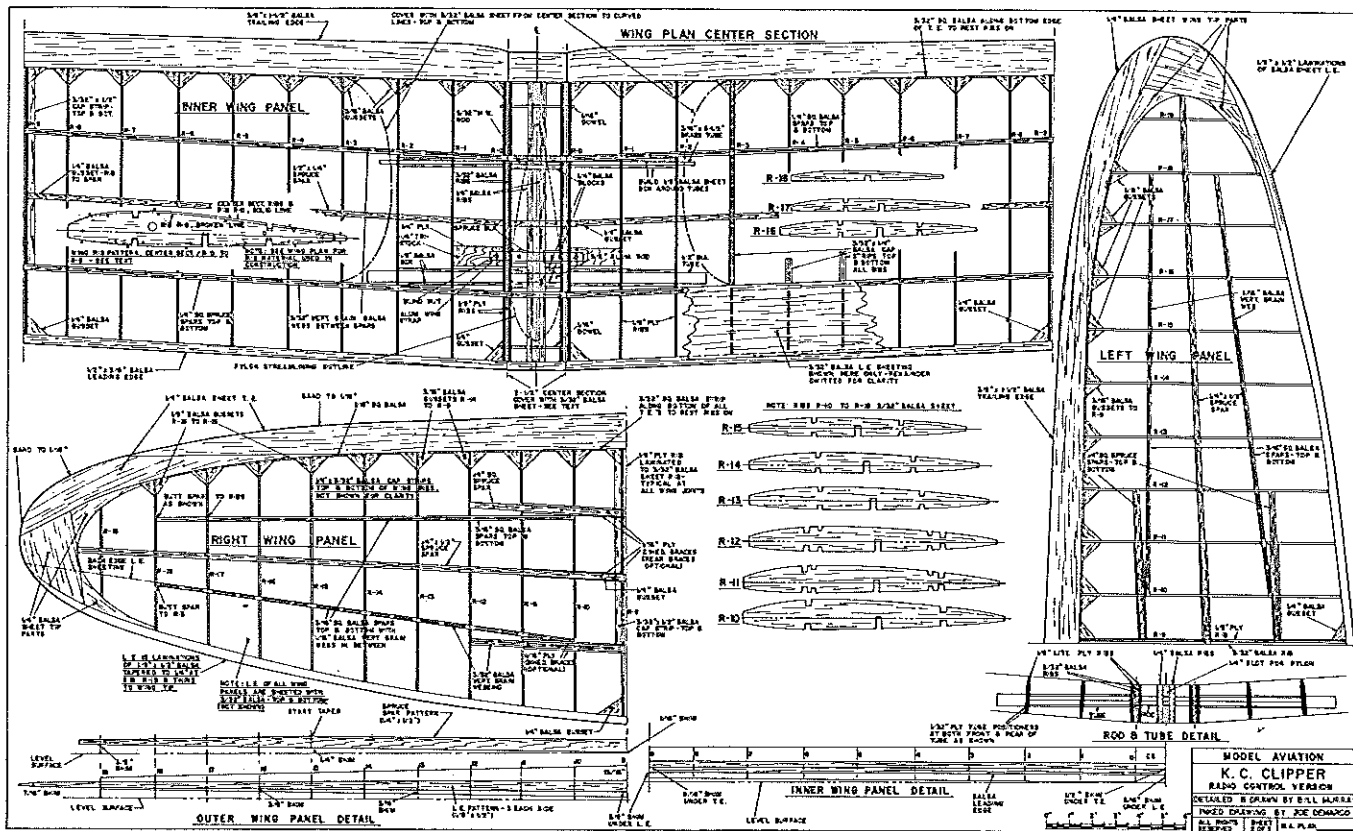
- 1) The finished walls should be at least 1/4-inch thick.
- 2) Cut some wood out of the middle of the balsa ovals before epoxying them together. Cement the F oval to the cowl after it is finished.



Outer wing panels after final sanding. Aluminum tee-bar sanders were used to achieve consistent taper.



Wing center section/pylon has been installed and streamlining pieces have been added. Model Magic fills gaps.



3) When the cowl has been sanded to shape and faired into the fuselage, cut it in half on the thrustline. I found it easier to finish sanding the inside after it was cut.

4) Check fit with the engine mounted and make sure that the throttle arm can move full-range. When the fit is satisfactory, keep the bottom in place, then cut and fit the F oval, epoxy and pin in place. When cured, sand to shape.

5) Inlay $\frac{1}{16}$ plywood where wood screws are used to hold the cowling in place.

6) Brush several coats of thinned epoxy on the inside.

EMPENNAGE CONSTRUCTION

Cement the tip pieces to the leading and trailing edges while flat on the building board, then shim them up and cement the tip pieces to the spars. Cement fairing pieces to the TE and fuselage after the empennage is permanently installed.

Tack the spars together with light spots of aliphatic-resin glue. Put removable $\frac{1}{4}$ sheet balsa scraps in the center slot of the stabilizer to size it for the fin/rudder keel. Be sure that these center ribs are perpendicular to your building board.

Pop the spars apart after sanding; saw the rear spar at the elevators; install the elevator horn; and epoxy the center section to the stabilizer.

Carve and fit the fuselage tail section block, and drill the hole for the rudder linkage. Remember to make the block oversize where it joins BH 13A.

Dry-fit the stabilizer with gold rod attached to the elevator horn. Check incidence and adjust the saddle if necessary.

Dry-fit the remaining components and pin them in place. Connect gold rod to the rudder horn. Check for smooth movement of elevator and rudder by hand-operating gold rods from the servo area.

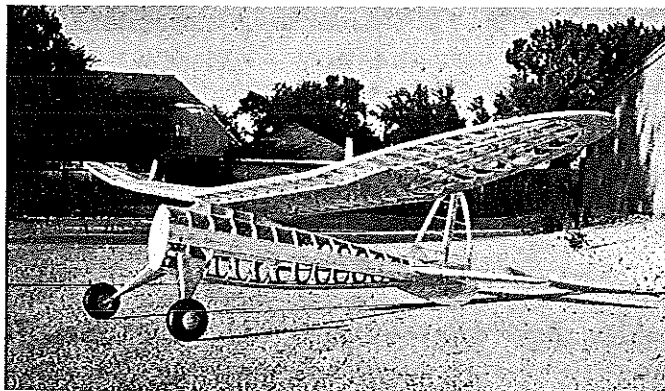
I used 45-minute epoxy to install the

empennage: First, attach the z-bend to the elevator horn. With the gold rod in its blue sheath, move the stab/elevator toward its saddle and onto it, then put the carved tail section in place. Slip the fin/rudder keel through the slot until it is firmly in position. Recheck the fit of all empennage components, pin them in place and let them cure overnight.

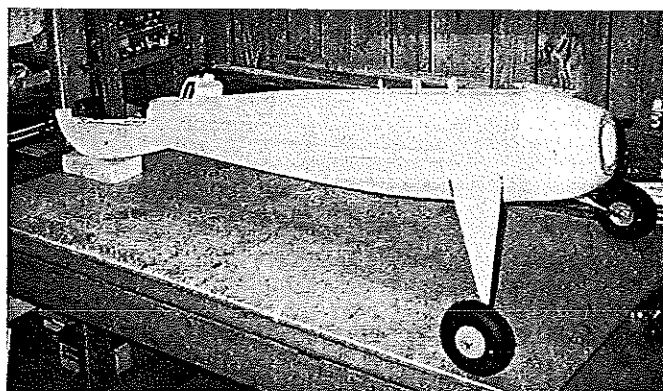
Sub-Fin and Carbon Fibers: Epoxy the sub-fin in place. I had carbon-fiber tape on hand, and I thought a little high-tech stuff might be helpful. I put the tape on the longerons for added strength, but I believe this is optional, because a planked fuselage is exceptionally strong.

PYLON/WING CENTER SECTION CONSTRUCTION

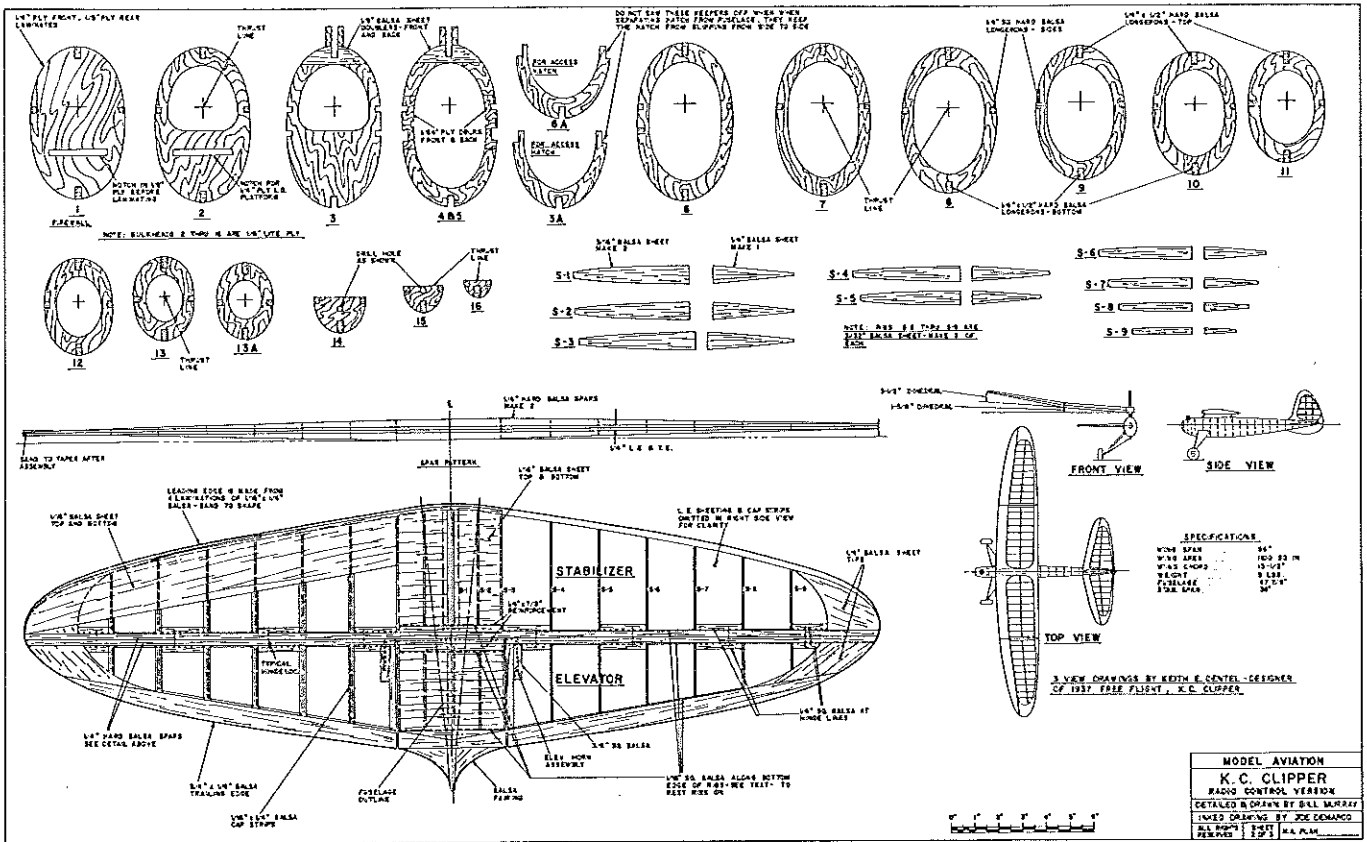
Ink these locations on the pylon: The rib outline and its lateral center line; a line representing the top of the top longeron; and



Skeleton view after planking has begun. Balanced application of planking strips helps fuselage retain correct shape.



The fuselage shell has been planked and cowl shaping has begun. Additional planking added after pylon is mounted.



vertical lines representing the extended notches of BHs 3, 4, and 5. The marks are convenient for checking the built-in wing incidence and the fit of the pylon streamlining pieces, which must be slotted to fit over the extended notches of the BHs.

When dry-fitting the pylon to the fuselage, make certain that it fits snugly in the BH notches and in the cuts where it rests of the top longeron. Also see that it is perpendicular to the crutch and the bottom is parallel with the crutch.

Wing Center Section (WCS) ribs and adjoining ribs of the inner panels are the same size. Stack sand, align and size the notches, drill the rod and dowel holes, etc.

Use 1/4 sheet balsa removable scraps to size the pylon slot and keep the center ribs perpendicular to the building board. No built-in tilts, please!

The WCS bottom spars end at the pylon slot.

The pylon should not project above rib

line, but it can be slightly below it.

I used a K&S wing rod package—3/8 rod, 1/2 tube, each 12 inches long. I cut the tube in half, one segment for each inner wing panel. Music wire and brass tubing were used in back.

WING PANEL CONSTRUCTION

Evenly tapered wing ribs require persistent sanding to remove high areas; scraps of balsa will fill low spots. I used a 32-inch aluminum sander, similar to a tee bar, and attained excellent taper lines. This applies to the fuselage bulkheads as well.

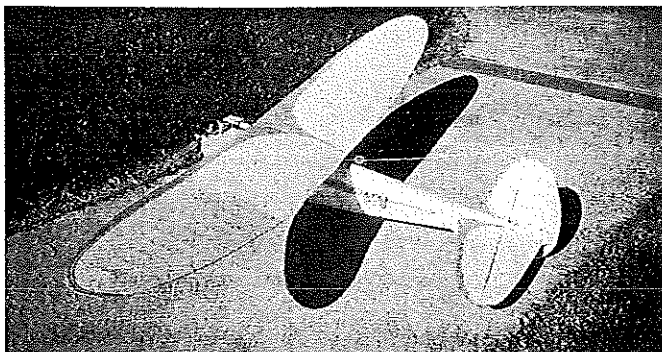
I wanted an easy way to establish consistent depth at the trailing edges for rib capstripping. There are 3/32 capstrips on the wing ribs, so I CyAed a 3/32-square balsa strip to the bottom of the TE to serve as a jig for rib placement. Use 1/16-square balsa strips when 1/16 capstrips are specified. I did not remove these jig strips.

Because many ribs are different lengths,

inaccuracies could creep in; therefore, I cut the ribs slightly long in the back and then sanded them to fit. At this point, I eyeballed the vertical size of each rib where it met the TE and sanded in any adjustments.

The inner wing panel (IWP) tapers slightly and narrows about a half inch. This makes the length and airfoil of each rib a little smaller going from the center section to rib 9. The airfoil difference is about the width of a pencil line, as the rib pattern on the plan illustrates. With this in mind, I used the following procedure to cut and size these ribs:

- 1) Cut out and notch ribs 1 thru 8 using IWP rib 0 as a pattern (the same size as the center section ribs). Ink a centerline on each rib.
- 2) Trim each rib to length and number them.
- 3) Make rib 9 from the plan pattern and ink in the centerline.



Waiting its turn on a Texas flight line. Author Murray feels it was one of his most interesting, rewarding projects.

Kansas City Clipper

Type: RC Sport

Wingspan: 96 inches

Engine size and type: ASP .61

Number of RC channels: Three

Expected flying weight: Nine pounds.

Type of construction: Built-up

Covering/finish: Fiberlike iron-on, Super Pox

Now you see it...

Now you don't.

Stars that twinkle. You gotta look twice to be sure they're really there.

Perfected by Jerry Caudle in his award winning finishes, and now available only from DRY-SET.

These stars only show when the light hits them a certain way.

Apply easily to iron on or painted finishes and like all DRY-SET Markings, are completely fuelproof.

Available at better hobby dealers.

Send \$3.00 for catalog and sample

DRY-SET
MODEL MARKINGS

NEW
ADDRESS

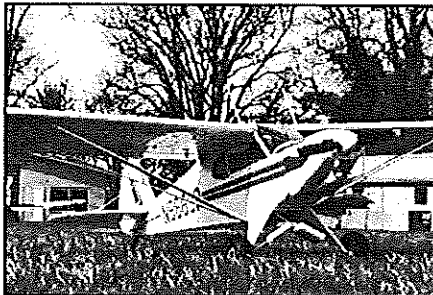
7029 Sanger Ave.
Waco, TX 76710
(817) 740379

IKON N'WST FINE KITS SINCE 1977

LEAN AND MEAN FLYING MACHINE

1/4 scale Piper Super Cub - 107", 16 lbs.

- Wood Hand Selected
- Fiberglass Cowl
- Complete Plans
- All Parts Hand Cut
- Instruction Manual
- Photo Page



Jerry Gray's Model

To order kits, call 1-800-327-7198. For a catalog of all our fine kits, send \$4.00. Idaho Residents Add 5% State Sales Tax.

IKON N'WST

P.O. BOX 306

Post Falls, ID 83854

1-208-773-9001

CALL TO THE FREE SPIRIT

AT Q S A A LAS VEGAS
OCTOBER 14-16, 1993



AERO DYNAMICS
5003 Ashlie Ct., Shingle Springs, CA 95682
Phone (916)676-2423 Fax (916)672-0607

4) Place rib 9 over rib 8, checking that the rib fronts and notches are aligned, as well as the center lines; use a pencil to outline the airfoil on rib 8. Remove rib 9 and sand the airfoil of rib 8 to the pencil line. Deepen the spar notches, using the aforementioned notch sanders.

5) Repeat the above process, using rib 8 over rib 7, and so on. The rear of the ribs should measure $\frac{3}{16}$ ($\frac{1}{32}$ on each side of the centerline). Fair the airfoil of each rib into correct measurement by sanding lightly.

Now make an identical set for the other IWP.

Drill holes in ribs 1 and 2 for rod tubes— $\frac{1}{2}$ -inch for the front tube and $\frac{3}{16}$ for the rear. Enlarge the holes in rib 0 to the tube size. The tubes slant towards the bottom of the wing for dihedral.

Pin identical adjoining ribs of inner/outer panels together and drill $\frac{1}{8}$ holes near the front and rear spar locations. When the panels are joined, dowel scraps can be inserted to get the proper fit.

Sand a slight bevel on the front of the TE stock to make it perpendicular to the building board when shimmed at the trailing edge.

Dry-fit and pin the first rib of the inner and outer panels during initial construction; cement when the dihedral angle is set, as follows:

- 1) Pin WCS on the plans flush against IWP view.
- 2) Trim the IWP spars to dihedral angle.
- 3) Place IWP (with the first rib dry-fitted) over the plans and block up the outer end $1\frac{1}{8}$ inches, using the jig block with the $\frac{1}{8}$ strip added. Sand the proper angle into the leading and trailing edges, and adjust the spar slant until adjoining ribs of WCS and IWP are flush. Put waxed paper between adjoining ribs. Check IWP alignment with the plans and pin it in place; anchor the jig block.
- 4) Insert dowels through WCS into adjoining rib of IWP.
- 5) Check alignment of IWP with the plan. With the components firmly in place and the ribs clamped flush, CyA the rib joints and supporting gussets in place.

Use the same procedure to set the dihedral angle of the inner/outer panels. Accurate fit and dihedral angle becomes important when installing the wing rod tubes.

WCS/PYLON ASSEMBLY

I assembled and finished this component as follows:

Roughened rods where they fit inside WCS.

Applied a light coat of 45-minute epoxy inside the center ribs of WCS, the rib area of the pylon, and the rod and dowel holes.

Inserted the pylon, rods and dowels, and checked alignment. Inset $\frac{1}{4}$ balsa between the ribs on each side of the rods and liberally applied epoxy

Continued on page 66

The DODDGER



The DODDGER takes 1st Place at the 1993 AMA Nationals!!

Craig Grunkemeyer now has this to add to his previous list of awards:

- 1st Place.....AMA Nationals 1990, 1991, & now 1993
- National Record Holder.....1990 & 1991
- 19 - 1st Place Awards
- 11 - 2nd Place Awards
- 26 - Fast Time Awards
- 1989 & 1991 T.U.R.N. Q500 Champ
- 5th PlaceNMPRA National Points

The kit includes all machine-cut, hand-selected wood.

All tricks included!

The record keeps growing.

Satisfy your need for speed with a DODDGER!

Engine: .25 to .45	\$49.99
Span: 50 inches	
Area: 500 square inches	

DIRECT CONNECTION R/C

A Division of Capstone Hobbies

Capstone R/C Suppliers, Inc. - 562 W. Schrock Rd. - Westerville, OH 43081 - 614-899-6313 **1-800-593-5250**

RC Soaring/Blakeslee

Continued from page 65

coming out this year, but as Sal and Stan say, "It was worth the wait!" I strongly recommend that all sailplaners get this catalog! It's a *wish book* come true. It's double the size of the previous issue—over 180 pages.

Gliders are divided by purpose and/or size: 18 hand-launch kits, 59 Slope models, 24 Two-Meter, 13 Standard, 24 Open-Class, 4 cross-country, 9 Scale, and 30 Electrics. Also included are big sections on radios, accessories, and electric motors.

The *big bonus* is all the special articles. They range from thoughts on F3J by Dave Thornburg to construction methods, and soaring tips from the 1993 USA F3B team. This book has it all!

Send \$7 (includes Priority Mail) to NSP, 16 Kirby Lane, Williston, Vermont 05495; Tel.: (802) 658-9482. →

KC Clipper/Dentel-Murray

Continued from page 24

over the rods.

Epoxied 1/4 x 1/2 spruce between the ribs under the wing strap location.

Epoxied and wood-screwed the wing strap in place. Filed the screw heads down to where they would not project above balsa sheeting when it was covered.

Bent the wing straps slightly upward, after WCS was balsa sheeted, to accommodate IWP dihedral; plugged in the wings; marked location of the wing strap bolt hole on the plywood mount. Removed the wings, drilled holes and installed blind nuts. Left openings for the wing straps in wing sheeting as outlined on plywood mounts.

Covering: I used a fiberlike iron-on

material on everything, including the cowling. The original model was covered with silk, and I wanted the new Clipper's covering to look as much like silk as possible.

Paint: I used K&B Super Poxy, sprayed on with a final clear coat (that Packard cream lacquer can't be found these days). I did opt for a new color scheme, but it is in keeping with the 1930s era.

Final Assembly: Install the fuel tank, radio gear and engine. I wrapped my fuel tank with very thin foam, then slipped it into a plastic sandwich bag, secured it with Scotch tape and put it in the fuselage. It fits snugly and stays in place. (Put the battery between BHs 2 and 3 before installing the tank.)

Plug in the landing gear, install the coil
Continued on page 112



All Custom Cradles Feature

- Custom molded gray tubing—no ugly fittings.
- Special neoprene foam—impervious to fuel and oil.
- Folds for easy storage.
- Custom design built to last.
- Ready to use—no building.
- Easily adjusted.



Roger's Custom Products

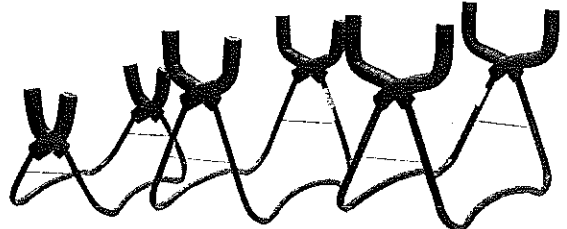
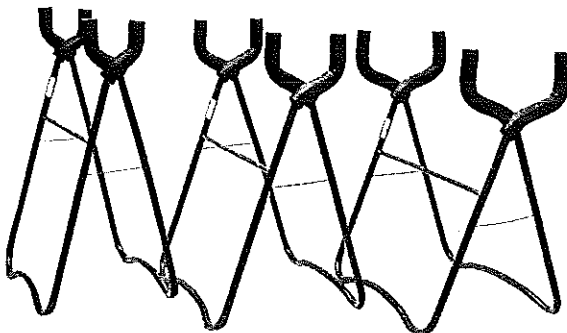
3177 East Fort Lowell Road #1, Tucson, Arizona 85716

Call today to order
1-800-CRADLE-0
272-3530

For the best New Year EVER, get a Tall Boy Cradle TODAY!!



Dear Santa
I want a
Tall Boy
Cradle for
Christmas.
Joe
Reer

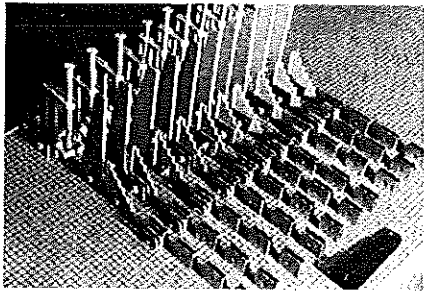


Tall Boy Custom Cradles
Tall Boy Standard—32" tall, 22" long, 3" to 5" wide fuselage..... \$38.90
Tall Boy Large—28" tall, 26" long, 5" to 8" wide fuselage..... \$40.90
Tall Boy X-Large—26" tall, 28" long, 8" to 12" wide fuselage..... \$42.90

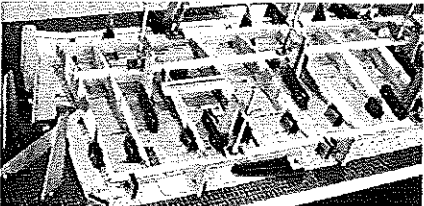
Lo Boy Custom Cradles
Lo Boy Standard—10" tall, 22" long, 3" to 5" wide fuselage..... \$24.90
Lo Boy Large—14" tall, 26" long, 5" to 8" wide fuselage..... \$28.90
Lo Boy X-Large—16" tall, 28" long, 8" to 12" wide fuselage..... \$31.90

THE MAGIC MAGNET BUILDER

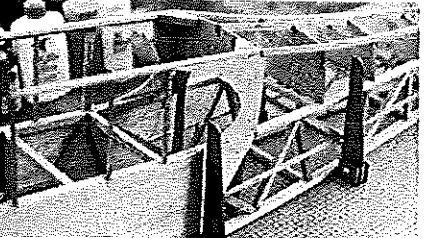
The finest model building equipment manufactured



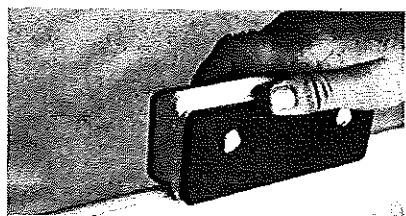
• FOR SERIOUS MODEL BUILDERS •



Build entire basic assembly before gluing.



Build fast, easy, accurate, straight.
Without access. #500A - \$108.85
With access. #500B - \$191.40

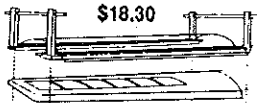


#202 Duplicator Contour Sander. Turn out beautiful edges. Simple and easy.
Standard - \$20.55 . Deluxe - \$59.55



#101 Extra Hands (below).
Makes covering easy.

\$18.30



#401 Digger (left).
Easiest to use hinging
tool available. \$3.35

ELDON J. LIND COMPANY,
3151 Caravelle Dr.,
Lake Havasu City, AZ 86406
(602) 453-7970

Send self-addressed stamped envelope for
catalog of all our products. M/C & Visa accepted.

KC Clipper/Dentel-Murray

Continued from page 66

springs, cable, and wheels. I used four-inch Du-Bro wheels with pneumatic tires.

CONCLUSION

I built an RC version of the Kansas City Clipper more than a half-century after the original made its last flight in California. This great model flew right off the workbench, with absolutely no trimming.

On a windy Texas morning, it rose from the ground in a gentle climb; it was graceful and majestic, like an eagle.

The Kansas City Clipper is relaxing to fly—great sport! On the other hand, it just might be a potential competitor.

Drawing detailed plans for a radio-controlled version of the K. C. Clipper was an interesting challenge; building the model was indeed a change of pace; seeing it in the air really made it all worthwhile. Yes, the K. C. Clipper has been rediscovered!

It is only fitting that Keith E. Dentel finish this firsthand account that had its beginning during the Golden Age of model aviation:

As I remember, most of the designs published in the mid-1930s seemed to be coming from modelers in the eastern part of the country. Among those were Henry Struck, Carl Goldberg, Gordon Light, Max Bassett, and Steve Kowalick.

However, there were some pretty good designers and builders in other areas of the United States. I would like to dedicate this story to Kansas City area designers and builders such as Winnie Davis, Gene Salvay, Doc Schrieber, Marvin Foreman, Herb Crawford, Bill Siegfried, Jim Hall, Bob Withers, and Jim Amis.

In closing, I want to thank Bill Murray for the tremendous job he did in making the Kansas City Clipper available to the modeling community. Happy Landings!

→

RC Giants/deVries

Continued from page 109

because the transmitter/receiver relationship remained relatively constant.

Steve was amenable to including the report of the loss of his beautiful model in this column. If it happened once, it could happen again. The *magic phrase* around his household is: "Make sure the receiver antenna is *outside* of the bird for assured radio control."

We won't be with you next month because the issue will be devoted to the Nationals. In the meantime, keep those Giants flying! →

Letters

Continued from page 85

This letter is intended not only to be a farewell to my good friend Larry Miller, who was an inspiration to me personally and to the entire south Texas modeling community, but also a tribute and thanks to *all* of the Larry Millers everywhere.

They may not be nationally or internationally known, but they are the people who unselfishly give of themselves and their expertise so that we may better enjoy the wonderfulness of aeromodeling and life.

If you know someone like Larry, treasure him or her. Turns out life really is too short to do otherwise.

Pete Kerezman
Kingsville, Texas

Right to the Point

Great covers for July and August 1993. It's about time!

Jim Bocckinfulso
Moneta, Virginia

Jim is primarily a free flight modeler, so his comments are understandable. It is our intent to balance cover subjects to cover all major modeling disciplines, and future issues will reflect this.

Local Custom R/C

3200 S Andrews Ave., Ste. 102

Ft. Lauderdale, FL 33316

305-467-6554

305-467-5434 FAX

The finest in R/C aircraft construction
Custom construction of all kits and plans

Engine, Radio and Kit Sales

Futaba, Airtronics

Hitec, Enya, O.S.

Byron Originals

SIG, Pica

1/4 Scale Grumman Tiger

Many other kits and accessories

Helicopter Sales and Repairs

Kits to Fully Flying

Call for discount pricing



For TOP PERFORMING

ENGINES

AIRPLANE • MARINE



K&B MFG. Inc.
2100 COLLEGE DRIVE
LAKE HAVASU CITY, AZ 86403