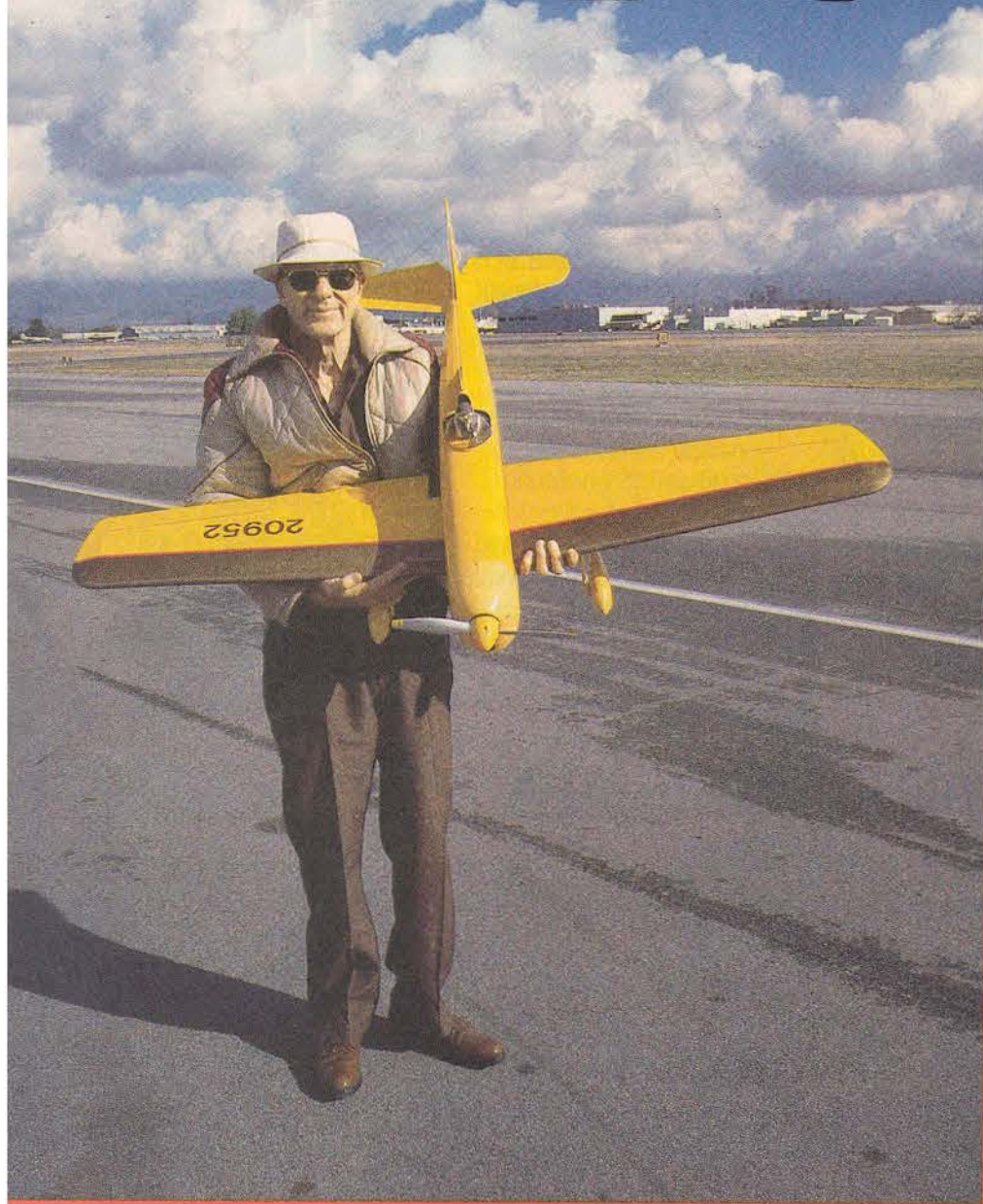


CECE #1



By Sheldon Birenbaum

CECE-1 ELECTRIC

Designed By:
Sheldon R. Birenbaum

TYPE AIRCRAFT

Sport Low Wing

WINGSPAN

60 Inches

WING CHORD

12 Inches Root, 8" Tip
(10 Inches Avg.)

TOTAL WING AREA

600 Sq. In.

WING LOCATION

Bottom of Fuselage

AIRFOIL

NACA 2414 (Semi-Symmetrical)

WING PLANFORM

Single Taper - Trailing Edge

DIHEDRAL

2 1/2 Inches, Tip Rib 6°

OVERALL FUSELAGE LENGTH

41 1/4 Inches

RADIO COMPARTMENT SIZE

(L)11 1/2" x (W)4 1/4" x (H)4"

STABILIZER SPAN

20 Inches

STABILIZER CHORD (incl. elev.)

6 1/2 Inches (Avg.)

STABILIZER AREA

126 Sq. Inches

STAB AIRFOIL SECTION

Flat (Elevator Tapered)

STABILIZER LOCATION

Top of Fuselage

VERTICAL FIN HEIGHT

9 1/2 Inches

VERTICAL FIN WIDTH (incl. rud.)

6 1/2 Inches (Avg.)

REC. MOTOR SIZE

Astro Electric - 25 Geared

BATTERY PACKS

(2) 7-cell 1200 mAh
(2) 8-cell 1500 mAh (preferred)

OR ENGINE

.40-.45

LANDING GEAR

Conventional

REC. NO. OF CHANNELS

4

CONTROL FUNCTIONS

Rud., Elev., Ail., Throt.

(Brakes Optional)

BASIC MATERIALS USED IN CONSTRUCTION

Fuselage Balsa, Ply & Spruce

Wing Balsa, Ply, & Lite Ply

Empennage Balsa, Ply & Spruce

Wt. Ready To Fly 108 Oz. (6 3/4 Lbs.)

Wing Loading 25.9 Oz./Sq. Ft.



no power to full power — 0 — pitch. A pussycat to fly for a low winger. I use, and have used, the NACA 2412-2414 and 2415 airfoil section on 90% of all the airplanes I have ever built, and I have never found a better airfoil section for a combination of stability, aerobatics, and just all around excellent flying characteristics. However, it

still was flying too close to stall speed.

Toni and Bill Young suggested gearing the motor and viola, I never dreamed it would make such a difference. I used a Rev-Up 13 x 8 4-stroke propeller. A perfect mate for the geared Astro 25 motor; 6500-6800 rpm on 16 cells, 6000 rpm on fourteen cells. It took off in about 15 feet,

climbed at a steep angle (stalled at this angle with direct drive motor), completed tight loops, nice rolls, Cuban eights, inverted flight, snap rolls, Immelmans and Lomchevak. It also flew nicely at about half throttle. The flight lasted almost six minutes using the throttle intelligently, and Joe

text continued on page 54



A classic 30's design aircraft that can be powered by a geared 25 electric motor or a .40-.45 engine

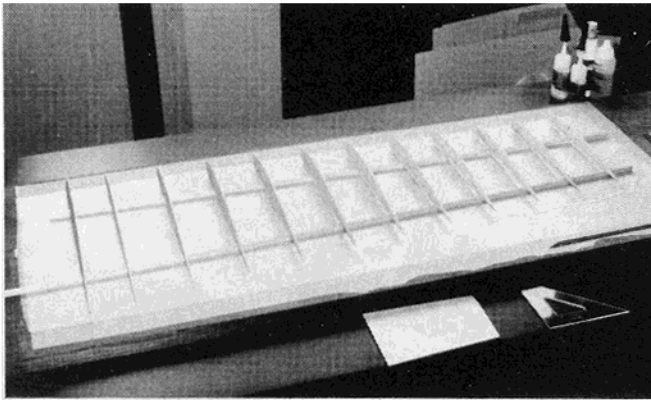
Cece Electric #1 was designed and developed after a chance visit to Toni & Addies Hobby Shop in Burbank, California. In 1983 I had to give up a hobby I started when I was nine years old, and a hobby that I loved and consumed most of my leisure time. Health problems prevented me from bending over or carrying heavy objects, i.e., field box, etc., Toni said, "Why not build an electric airplane." And then and there, Cece Electric was born. I had divorced myself so

completely from the hobby, that I was not even aware of electric airplanes. After much discussion and picking of Toni's brain for over two hours, I purchased an Astro 25 motor, direct drive, charger, SUAF Futaba radio, and even the balsa wood. I made a rough sketch of Cece #1, wing area, span, length, etc., and as soon as I arrived home, I immediately started the outline plans.

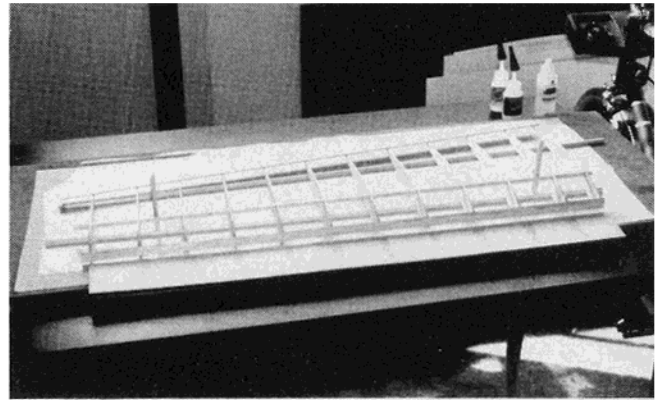
After one year of building, and a number of changes, the project is completed. The first model had flaps and aluminum landing

gear, but proved too heavy. Surprisingly at 7 lbs., Toni test flew the first model and it took off and flew perfectly, no trim necessary, and the C.G. perfect. However, it was flying too close to stall speed and could not complete a loop. I built a new wing, no flaps, and moved the landing gear back into the wing. The airplane now weighed 6 1/2 pounds. Toni flew it again and now it would loop, roll, Cuban eight, and flew well. Very stable. No tip stall, excellent flat glide and the transition from

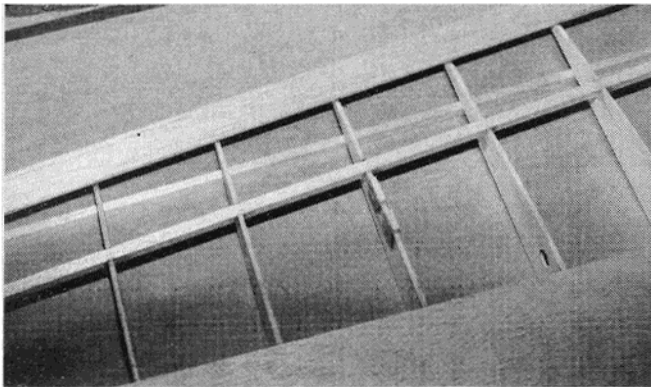




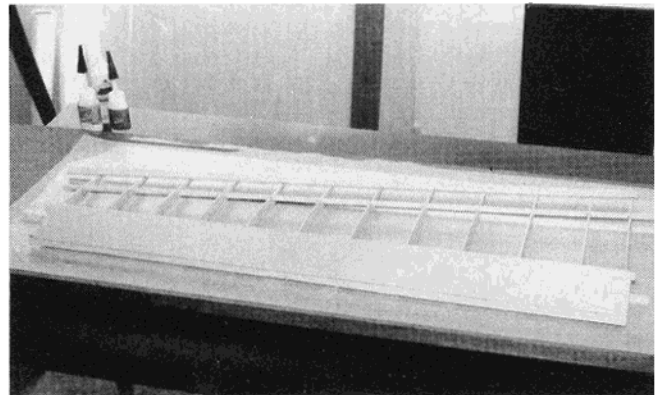
Ribs tacked in place.



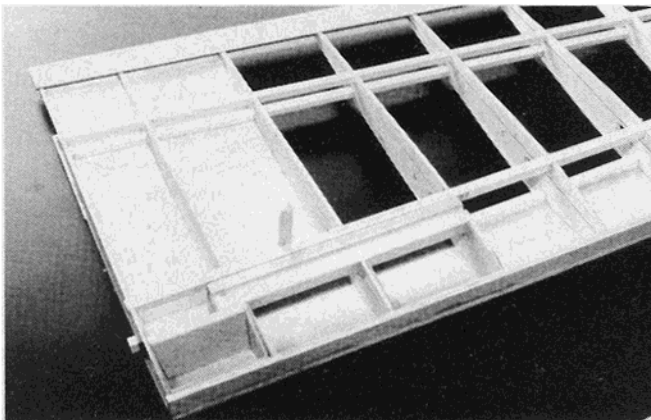
Spars, ribs, L.E. and T.E. parts in place.



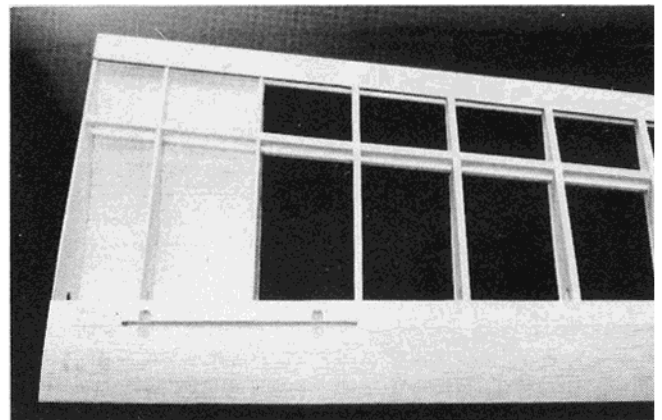
Front trailing edge sheet in place, and rear spar being fitted. Note plywood jig for cutting notches sitting on rib and shim under wing for support.



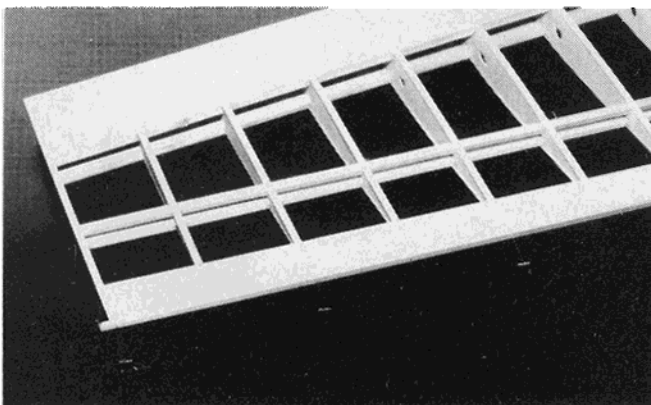
Ready for cap stripping.



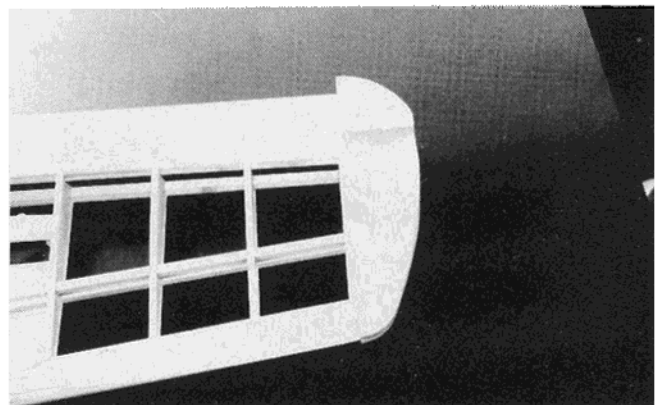
Sig L.G. block, ply support plate, and dowel support plate shown. Note tacked on guide support for aligning bottom sheeting.



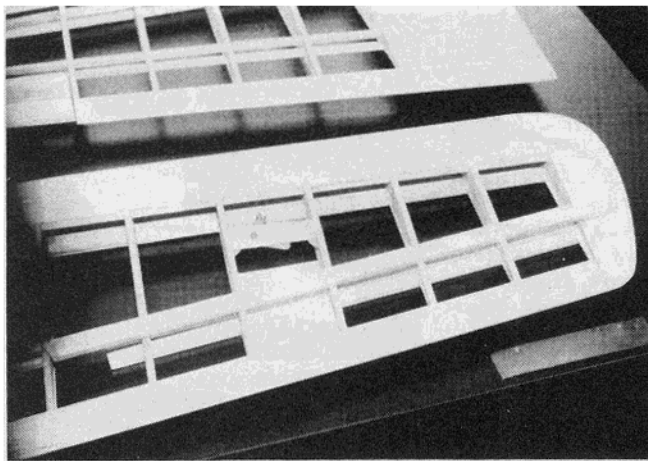
L.G. cut-outs detail.



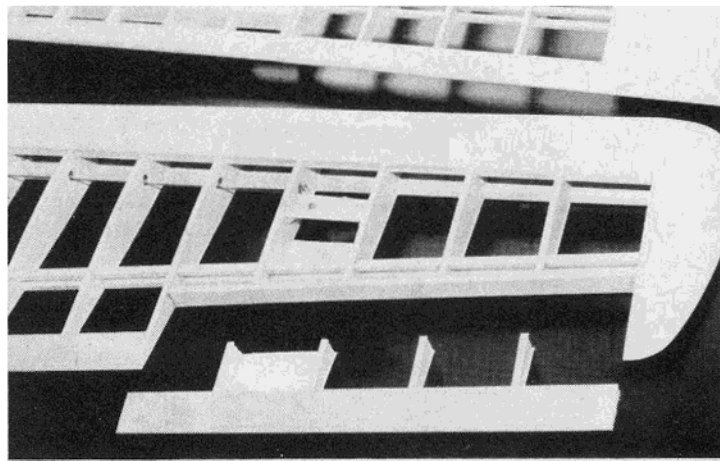
View of T.E. strip pinned to wing T.E. and ready for CA (thin).



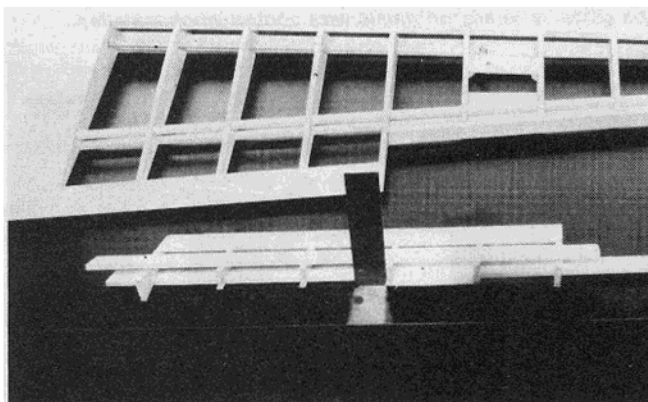
Built-up wing tip ready for sanding. Three 1/8" layers on top, two 1/8" layers on bottom.



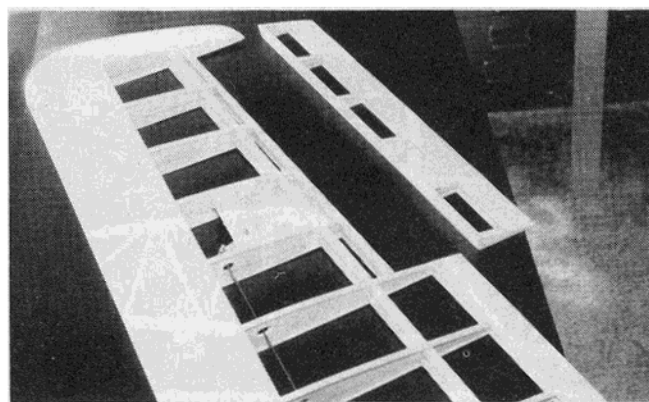
First cut on wing using spruce guides to cut out aileron.



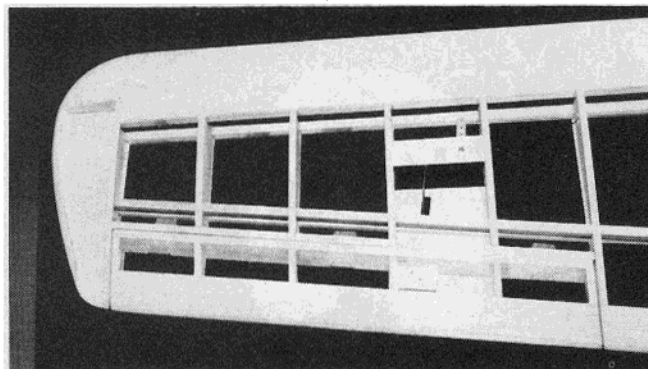
Ailerons cut out, front spar added.



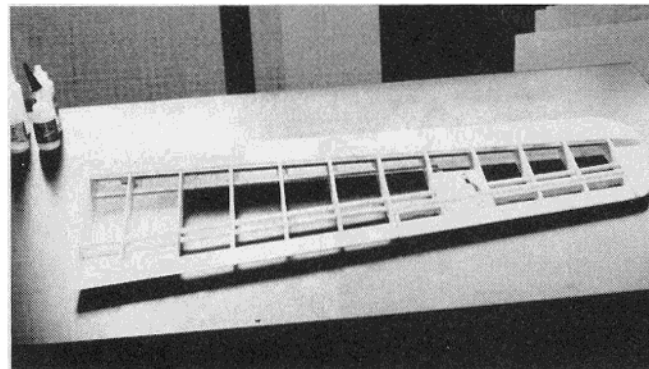
Spruce guides on aileron prior to cutting. Note X-Acto saw blade removed from the handle.



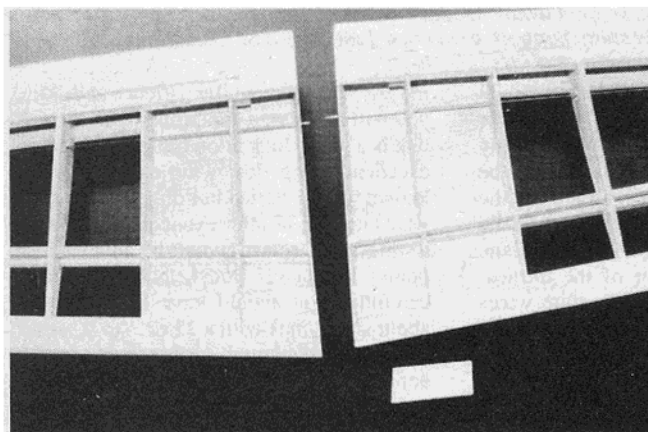
Ailerons completed with ends and front spar.



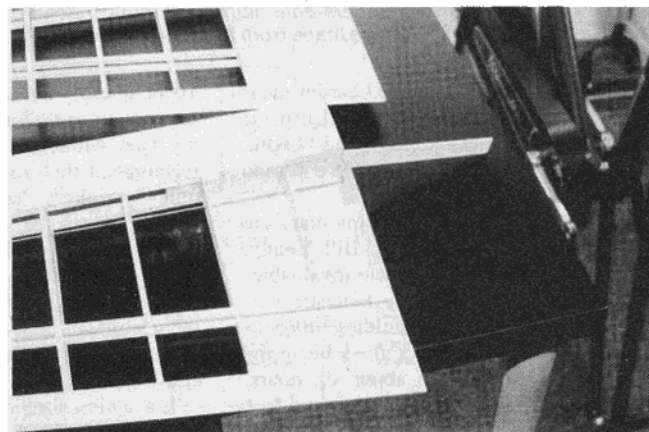
Top view aileron detail. Note ply horn mounting block and wing tip detail.



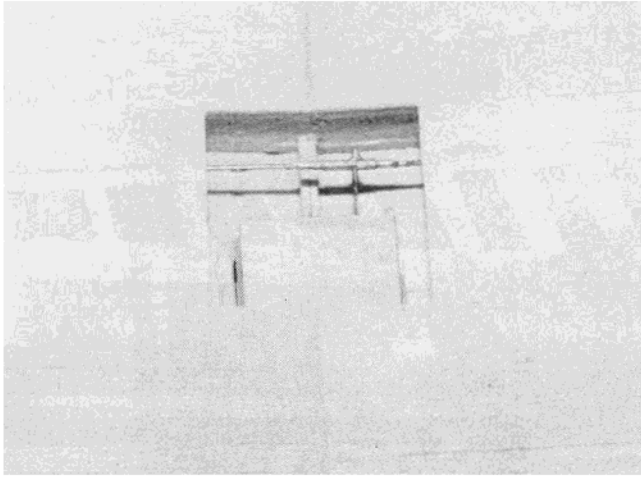
Completed wing panel ready for balsa wedge fill. Note bottom center sheeting is not installed yet.



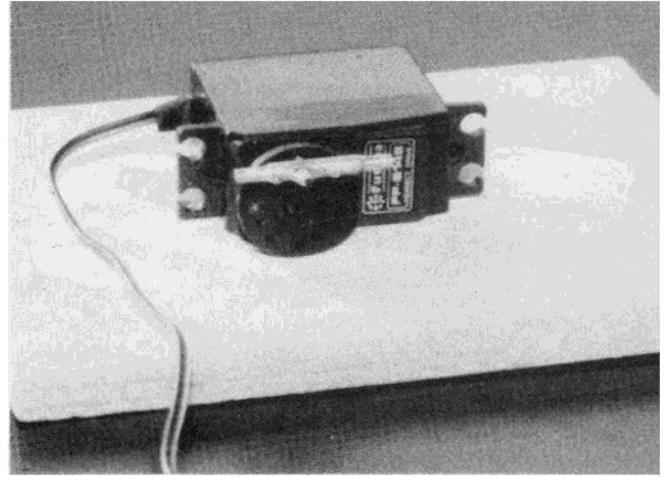
Wings just before mating. Wing ply support in place, other ply support ready to CA to balsa wedge fill. T.E. cut out for flush fit of ply support plate.



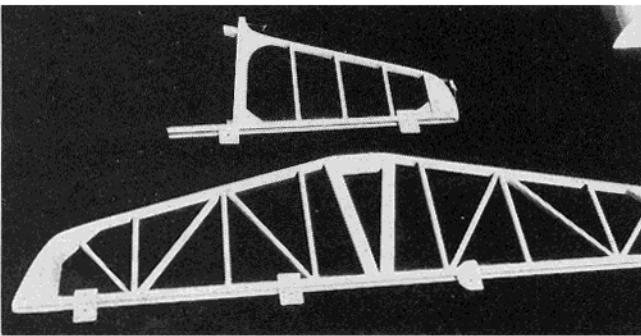
B-1 dihedral brace fitted only in place in one wing panel. Servo box rear sheet CA'd in place. Trailing edge plywood bolt support CA'd to balsa fill wedge and recessed flush with T.E. B-2 center ply brace not yet epoxied to B-1 brace.



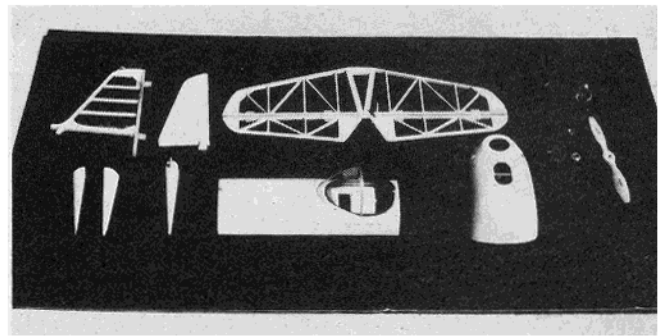
Tubing soldered to aileron music wire. Offset servo arm wire to mate with hole in servo wheel. Note servo mounting plate and fiberglassed center section.



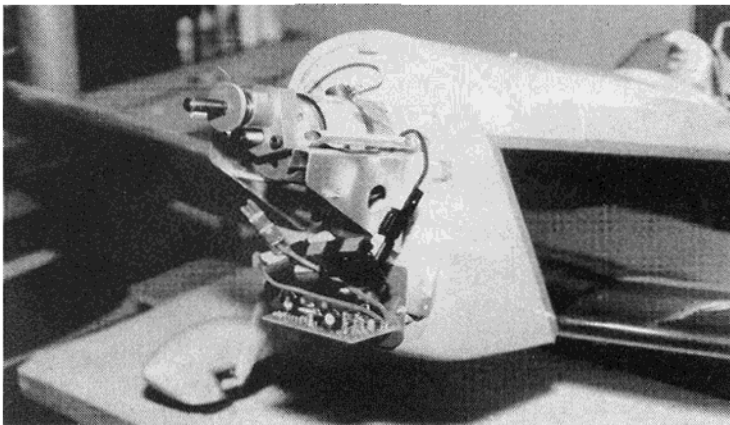
Servo detail showing brass tubing connected to servo arm, will be soldered to aileron music wire control when installed.



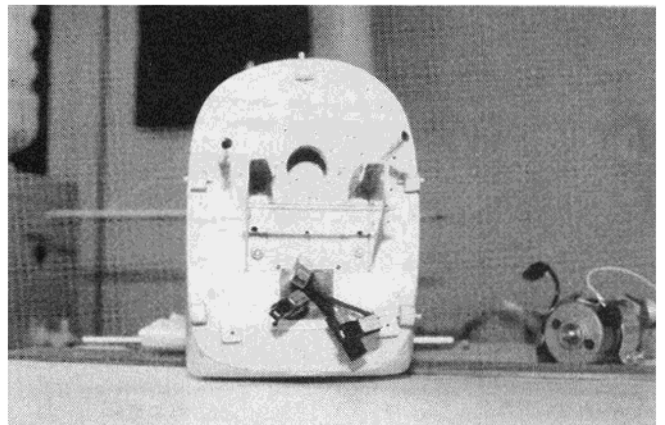
Detail showing ply/balsa cored spars on stab and fin, very strong.



Stab, rudder, elevator, fin, canopy, cowl, and tail fairings; (rudder Monokoted). Use air outlet holes on built-up tail surfaces so air can escape during hot weather, or covering will balloon out.



Astro 25 geared motor on adjustable aluminum mount; Jomar SC-4 speed control; air scoops made from tubing, cowl mounting supports glued in place.



Hole in firewall necessary for geared motor; 1/8" x 3/4" rear bearing support clearance just fits; 3/32" clearance between spinner and cowl.

Fosnot, who flies a Corporate Lear Jet and is an excellent radio controlled model airplane pilot, was all smiles. He said, and I quote, "I now feel comfortable flying Cece #1 and it is a superb flying aircraft."

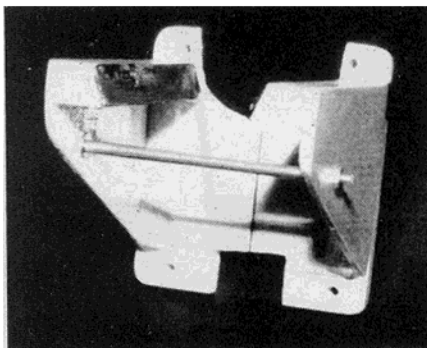
I would now like to extend my thanks to Toni Naccarato, Joe Fosnot, Bill Young, and Bob Hunter. Their help was invaluable.

Thanks to Bob Hunter's fantastic new UFO cyanoacrylate glue, building time was reduced over fifty percent. I built the complete empennage in about six hours. This was my first MonoKote job and Bob Hunter gave me some tapes by Top Flite showing how to apply MonoKote correctly and I also bought a book called, "Tom's

Techniques." These two references taught me enough to perform an excellent job for my first MonoKoting attempt. I highly recommend that you use Balsarite on the outer periphery only, for attaching the MonoKote to balsa wood, and on the fiberglass center section. The airplane sports a vintage character of the thirties. Open cockpit, wheel pants, tail wires (functional), and cowed, as were the inverted Menasco and Cirrus engines of that era. Aesthetically it is pleasing to the eye.

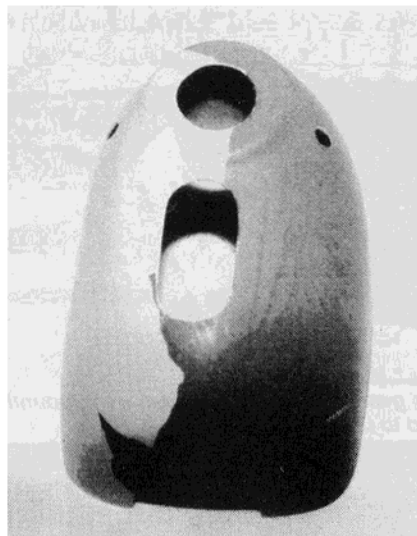
It is a very simple airplane to build, box fuselage with stringers for shape; simple flat built-up empennage, and a very easy to build taperwing. If you are tired of hybrid

models, and have a little patience and skill, you will be pleased and proud of an aircraft that is a joy to look at on the ground and an excellent flying, low wing aircraft. Had I known when I started building the airplane, what I now know after a year of building and testing, the airplane would be another half pound lighter. If you select your wood carefully, you should have an aircraft at about six pounds with a 22 oz./sq. ft. wing loading, that should further enhance the aerobatic performance. One more item before you start construction. Cece is short for my wife's name, Cecelia, who is most understanding and helpful during my construction tirades.



Removable wood motor mount.

hook on one end. Use this wire hooked around aileron servo wire to insert servo wire into hatch area when attaching wing to fuselage. Now at our favorite flying site, with airplane, transmitter, AC/DC charger, and small tool box, with extra fuses, batteries, and necessary tools, we're ready to go! Remove hatch, place spinner on piece of foam and secure wing to fuselage, first inserting all wire into hatch, through opening in wing saddle. Plug in aileron servo wire to receiver. (Note color coded connectors in photos.) I leave nothing to chance. Motor Sermos connectors are also



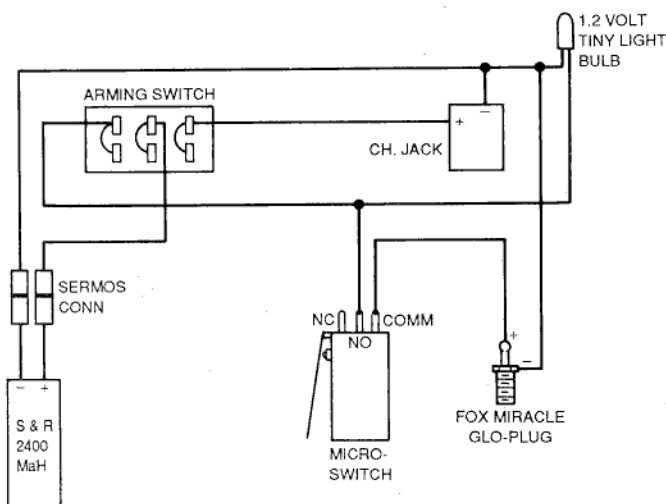
CONSTRUCTION:

(Editor's Note: Due to the length of the construction sequence on the Cece-1, it is not being reproduced in this article. We have given you the introduction and the flying portion of the article; the complete construction article will be furnished when ordering the full size plans.)

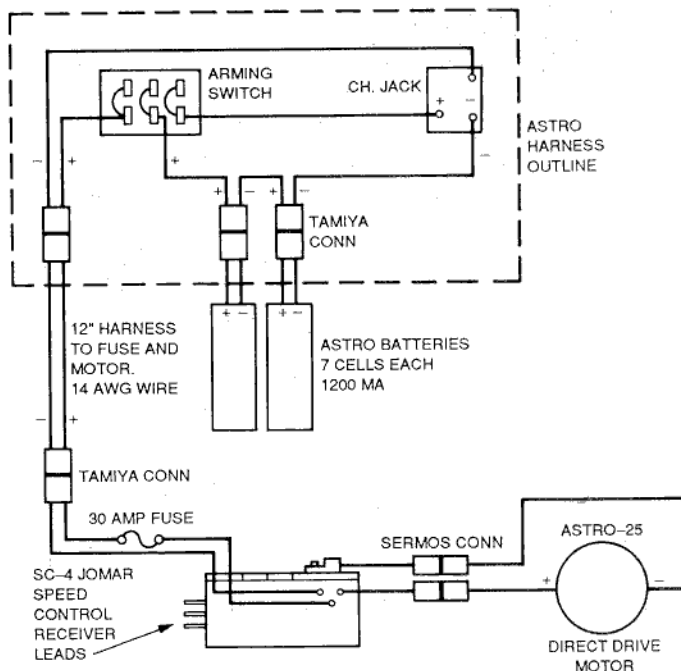
Flying:

Cut an 8" piece of 1/32" music wire with

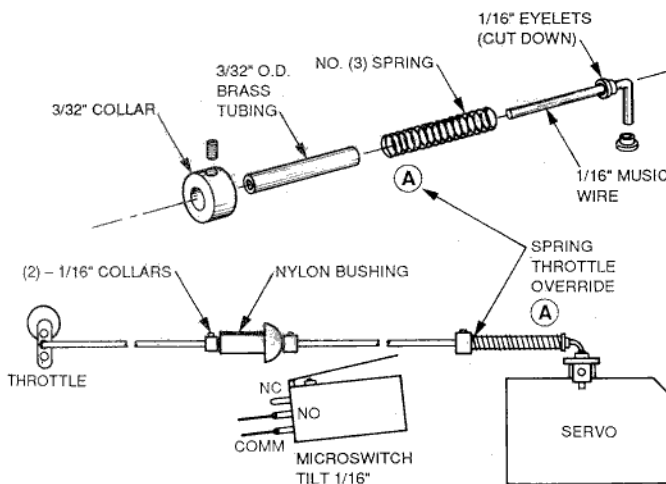
Not mentioned in text: Using Krylon spray primer and then Sig color dope sprayed on. If cowl is damaged, paint can be easily peeled off like orange peel. Prevents the mess of removing paint with thinner.



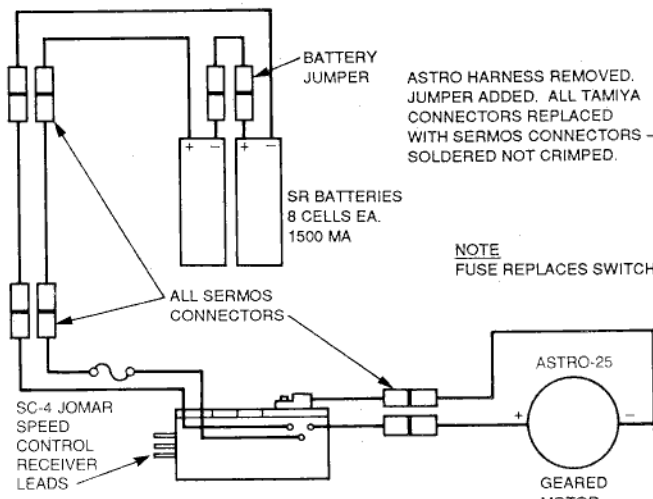
WIRING DIAGRAM FOR ON-BOARD IGNITION



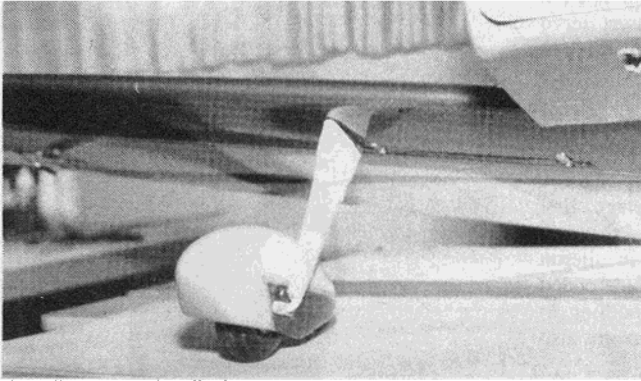
PROTOTYPE WIRING DIAGRAM



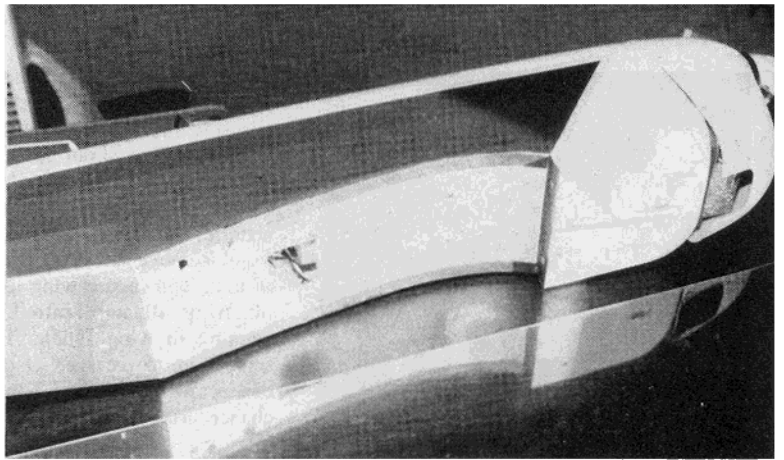
THROTTLE LINKAGE



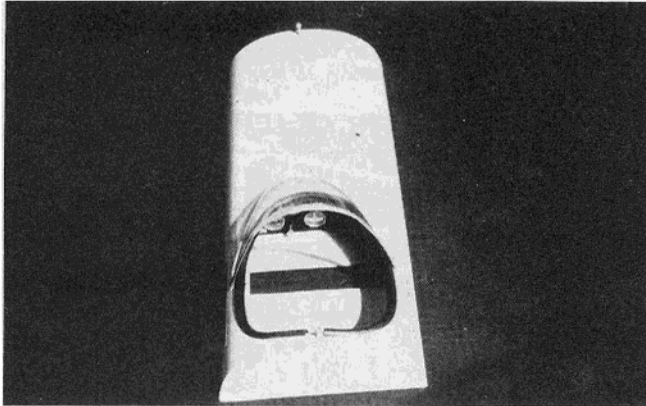
FINAL WIRING DIAGRAM



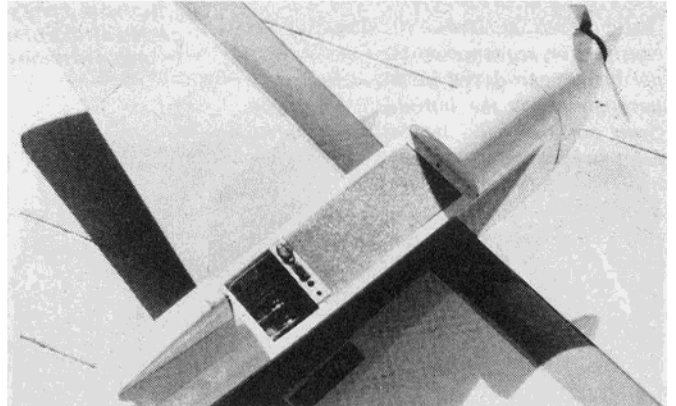
Landing gear detail showing brass part mounting strap silver soldered to L.G.



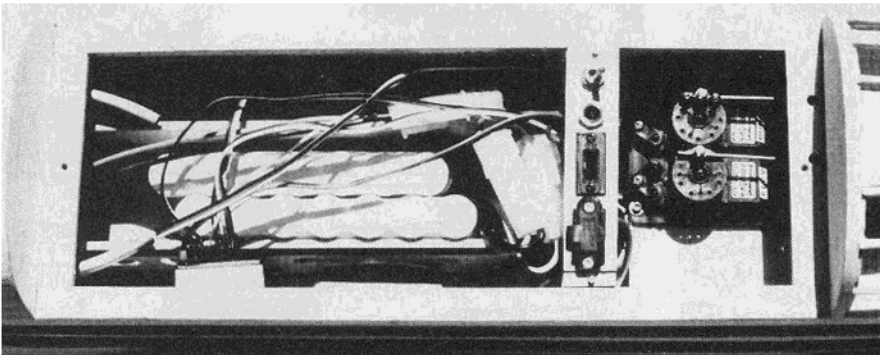
Cowling air inlet cut out. Note air exit holes on bottom.



Canopy hatch showing harness assembly cut out. Instrument panel is easy to build and is optional. Tatone instruments, altimeter, fuel gauge, bank and turn indicator, oil pressure, air speed, and hand fuel primer (round plastic head colored pin). Coaming and hatch securing bolts shown.



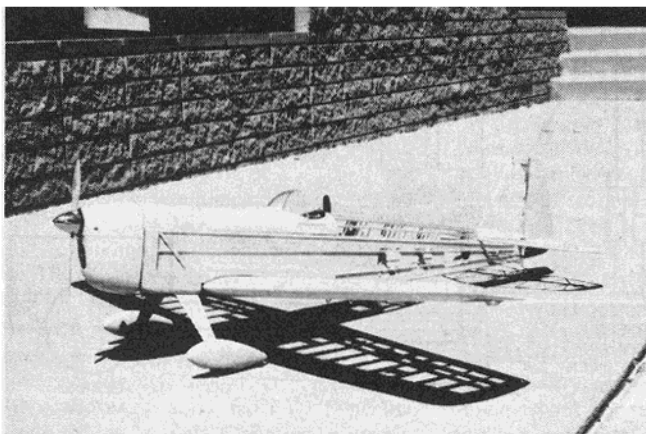
Light porous foam covers batteries before placing hatch in place (one ounce lighter than R/C foam).



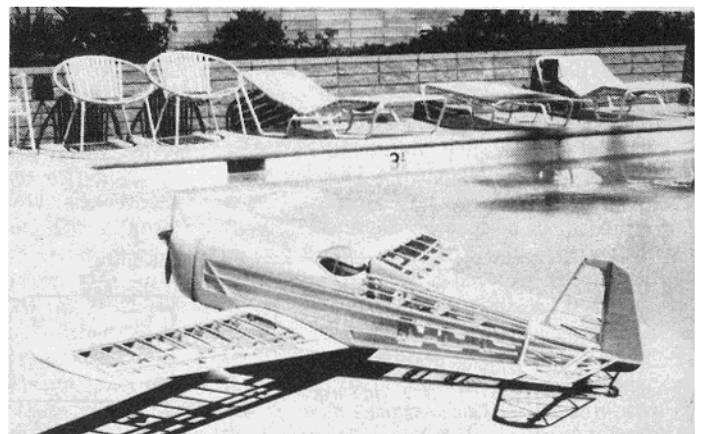
Harness assembly detail; motor harness removed on second model; battery and servo installation detail.

color coded. Connect motor harness to batteries. Replace foam and hatch. Check all controls and do a radio range check. Check L.G. tracking of plane. Check brake if used, and freedom of controls with brake on (up elevator). I do a taxi-ground check, as done on real aircraft. If ground tests are performed, recharge batteries before test flight.

Carry airplane to take-off point. Remember you are not flying a pattern airplane, or a 5 or 6 pound 60 powered airplane. You fly an electric airplane as you would a full sized aircraft. Normal take-off run, gentle climb and turns until you are familiar with the airplane's flying characteristics. Align airplane on take-off



Completed Cece ready to cover. It's a shame to hide that framework.



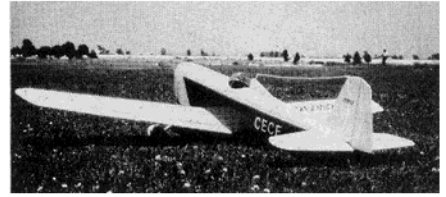
strip. Turn on transmitter and receiver. Check all controls. Check **trim settings** on transmitter. Throttle and trim off position. Holding airplane firmly with hand, insert fuse. **Note:** Due to large propeller and strong P factor, be prepared to feed in right rudder on take-off. Open throttle, right rudder as needed, and you are airborne. Trim aircraft in flight as needed. Check transition from low to full power. Should be 0° or slight up pitch. Use throttle intelligently. Fly a gentle true aircraft

pattern for first flight.

The airplane has a very flat glide, so try to land with power to spare on first flight. Once you are familiar with airplane's flight performance, you are ready for aerobatics. Try a loop, back on power on downside of loop. Slow rolls, barrel rolls, Immelmans, Cuban eights, inverted flight, point rolls, spins, and snap rolls. If you use your throttle intelligently, flights of 5 to 6 minutes can be had. When landing with power on, feed in a little up elevator and use throttle for altitude

control.

You will enjoy flying this airplane and have many hours of pleasant flying time. Good luck and enjoy!



**From
RCModeler
Feb. 1991**