ABOUT THE AUTHOR

Charles (Charlie) R. Parker Jr. is 32 years old. He flew his first R/C model when he was 14 years old, and has been active in the hobby since.

He is a construction supervisor and partner of one of the larger construction firms in the L.A. area, and really enjoys creating new homes.

Charlie is also a licensed pilot, aircraft mechanic, and has a general contractors license. He has studied real estate law and aeronautical engineering, and has spent several years in aviation and Pro auto racing.

His other interests include Corvettes and Corvette clubs. He is the current Southwest Regional Govenor of the Western States Corvette Council, and the past president of his club, Corvettes Unlimited.

use more than half the motor charge during your flights. Kind of a two for one, so to speak. Once at altitude, shut the motor off. You will witness the flattest glide, for an 'electric,' you have ever seen. Sorcerer will catch even the slightest thermal, and utilize every whisper of it. On a good day, half hour flights should be plentiful.

Included in the plans is a .049 glow version and is self-explanatory. This will give you some flexibility. Those of you who like to experiment will find Sorcerer very adaptable. An example, you say? How about clipped wings for working slopes? Or an extended fuselage with a tow hook? Or both? As you can see, you can have several sailplanes by building modified components, making the task of perfecting the design to your specific needs easier.

In short, if Sorcerer has any limitations, they will be your radio batteries, or the stiff neck you have contrived for yourself because you have been looking up for so long!

SORCERER
Designed By:
Charlie Parker
TYPE AIRCRAFT
Electric Powered Sailplane
WINGSPAN
92½ Inches
WING CHORD
Root 10" - Tip 7½"
TOTAL WING AREA
815 Sq. In.
WING LOCATION
High Wing
AIRFOIL
Flat Bottom
WING PLANFORM
Constant Chord, Tapered Tips
DIHEDRAL EACH TIP
4¼ Inches
O.A. FUSELAGE LENGTH
44 Inches

Sorcerer

I would like to fabricate a story as to the reason for which Sorcerer was designed --- some explanation that would not step on everyone's toes. But, quite frankly, I can't think of any.

So what is my reason for designing Sorcerer? Well, to be honest, I think sailplane designs are boring. Yep, that's what I said, B-o-r-i-n-g. I wanted a new sailplane some time back, so I trotted down to the local goodie store. Standing there, gazing at all the kits on the shelf, I saw the words **new** and **improved**. But, all of a sudden, it occurred to me that they all look the same. The only real difference I could see was an occasional 'T' tail or 'V' tail — and nothing more.

Sorcerer's design is radical. I wanted a sailplane I could take to the field that would literally draw a crowd. A sailplane that would make fellow RC'ers ask me even the most basic question, "Does it fly?" I can safely tell you now that I achieved this goal.

Further, I wanted an electric sailplane. One that would climb like it was shot out of a high start and **not** lumber into the sky like a lovesick pelican. You will find Sorcerer's climb outstanding. In fact, you will rarely

CONSTRUCTION

General:

The construction of Sorcerer is quite conventional. There is nothing that should throw you any curves if you have any experience as a modeler. However, there is a particular order in which you must assemble all the sub-assemblies. If you try to shortcut, all you will end up with is a headache and a crooked sailplane. **Don't do it!** And don't add to the structure in an effort to make things stronger, all you'll accomplish is to make Sorcerer very "fat."

Start by cutting all of the parts needed. Don't forget to cut **four** tail boom sides, and be sure to make **two** vertical fins and rudders. A word about wood selection. Pick it **carefully**. All the balsa needed is medium unless marked otherwise. If you just grab whatever is in the box, you can add as much as a full pound without any problem. Most of the strength in Sorcerer is in the proper placement of the proper wood.

You will need only two adhesives for this project. Jet and Super Jet (for laminations), and Hobbypoxy II. I have used these two glues exclusively for the building for several reasons, the most obvious being **weight**. Here, again, if you use your favorite aliphatic resin type glue, you will add unnecessary weight, as much as 2 or 3 ounces.

I am going to give you some maximum weights for each of the components. This

RADIO COMPARTMENT AREA
(L) 17½" x (W) 2½" x (H) 2½"
STABILIZER SPAN
14¼ Inches
STABILIZER CHORD (incl. elev.)
8 Inches
STABILIZER AREA
114 Sq. In.
STAB. AIRFOIL SECTION
Flat
STABILIZER LOCATION
Top of Fin
VERTICAL FIN HEIGHT
7 Inches
VERTICAL FIN WIDTH (incl. rudder)
7½" (Avg.)
Rec. ENGINE SIZE
Astro 075 - .049 Glow
FUEL TANK SIZE
Glow-Cox Tank Mount
LANDING GEAR
Skid
REC. NO. OF CHANNELS
3
CONTROL FUNCTIONS
Rud., Elev., Motor Control
BASIC MATERIALS USED IN CONSTRUCTION
Fuselage ..... Balsa & Ply
Wing ..... Balsa, Ply & Spruce
Empennage ..... Balsa
Wt. Ready To Fly ..... 30-48 Oz.
Wing Loading .. 7.8 Oz./Sq. Ft. w/Astro .075
6.6 Oz./Sq. Ft. w/.049 Glow

way, if you make a mistake you can correct it during building instead of trying to figure out where you went wrong later on when the model is completely together. The fuselage should weigh 2 to 3¾ oz. complete, tail booms are 1 to 1½ ozs. each, wing center section 2½ to 3½ ozs., wing panels 2½ to 3 ozs. each, and tail feathers are 2 ozs. combined. If your Sorcerer weighs more than 17 ounces completely framed, less covering, radio, motor and battery, you blew it somewhere. Go back and see if you can find what you did wrong since you are going to be lugging around 14 ounces of electric flite pack.

upright and glue the other side to F-3, checking it against the plan while doing so. F-2 is next. It is glued directly to the fuselage side. Now add the forward cross stringers and then the rear cross stringers. Keep checking the fuselage against the plan to be sure it's true. If you are satisfied so far, add the bottom sheeting, cross grain. Continue the sheeting up and around the back of the fuselage. The very rear of the fuselage has a piece of 3/16'' sheet across the back. The bottom sheet butts against the 3/16'' sheet at the rear. You can now add the rear top sheet. This, also, butts against the 3/16'' sheet. Now is a good time to glue the ply wing hold-down in place.

On the bottom side of the wing hold-down plate, apply some Hobbypoxy and glass cloth. Let it cure. Glue the top sheeting in place between F-2 and F-3. Cut and glue the small block that goes on the top of the fuselage just forward of the canopy. The nose block is now tack glued in place.

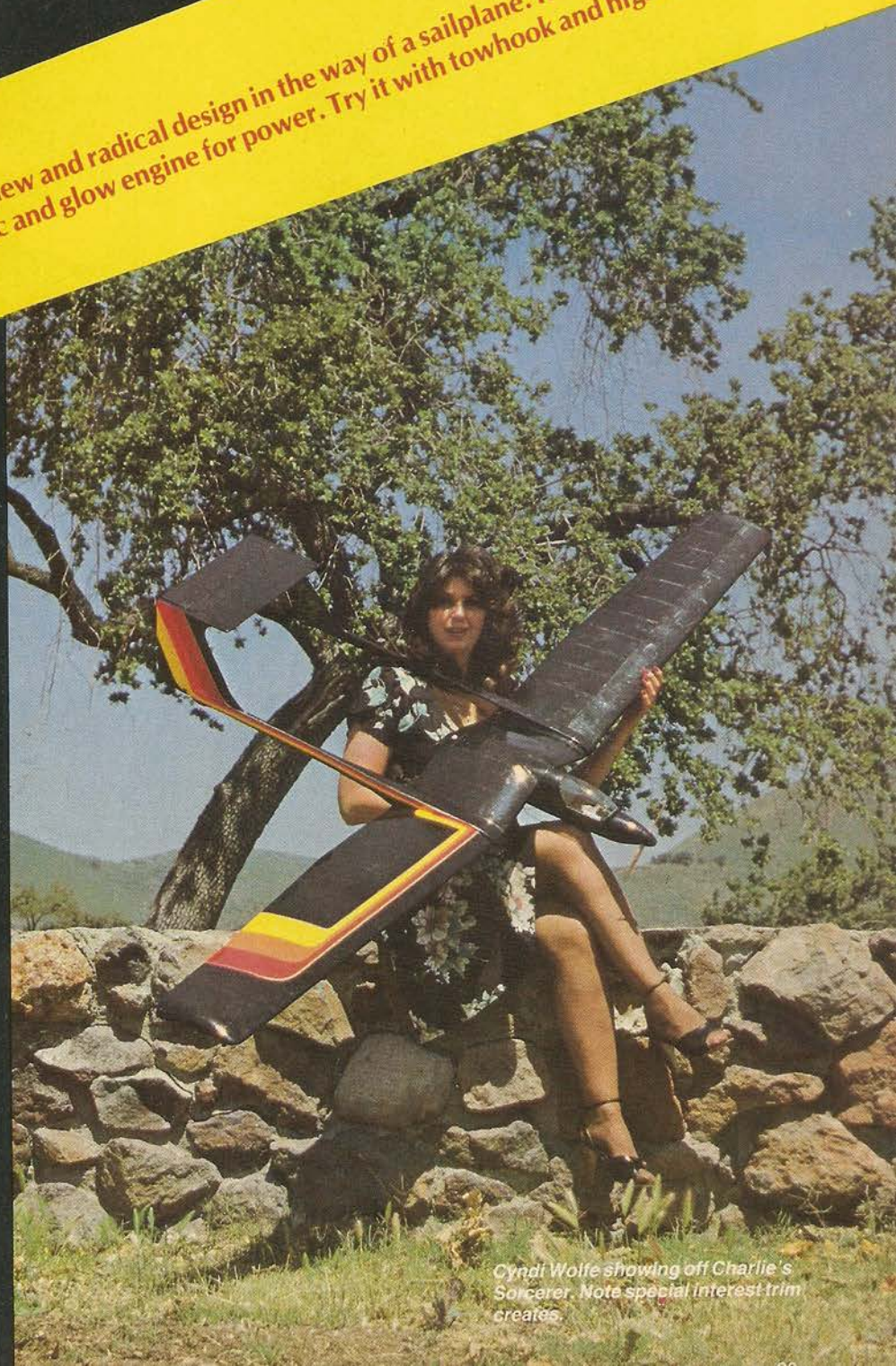
Charlie Parker's "Sorcerer" is a new and radical design in the way of a sailplane. It has proven itself in every respect using electric and glow engine for power. Try it with towhook and high start.

I have selected the Astro-Flite 07 motor package. My original plan was to use an Astro 05. When I confronted Bob Boucher with this, his words of wisdom were, ''You guys keep trying to fly million square inch sailplanes with 05's and it doesn't work!'' You know what? He's right! So if you have one of those little 05's laying around, leave it laying around. Don't put it in an 800 + sq. in. sailplane and expect it to do a job it was not designed for. The Astro 07 is almost identical to the 05. The 07 system weighs only 1½ ounces more than the 05, and the motor is 3/8'' longer. However, the 07 will swing an 8/4 prop while the 05 only handles a 6/4. If you have an 05 system already, you can use your present battery pack with the Astro 07 motor which can be purchased separately for about $15.00. Okay, let's start building!

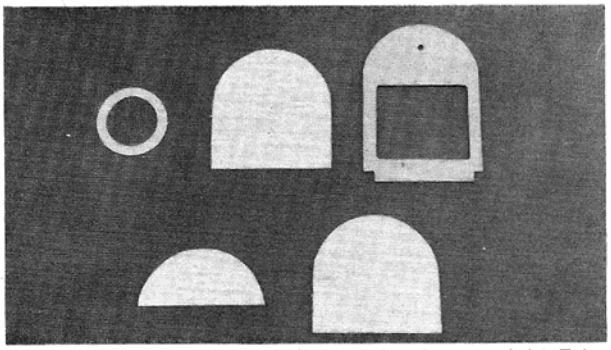
Fuselage:

Lay the sides out so you have a right and a left. Locate the stringers in their appropriate places and glue them down. Once all the stringers are in place, cut the 1/64'' ply doublers. Pre-fit your doublers in place, and if all is okay, apply Super Jet (great for laminations) to the ply doublers only, running ribbons the length of the doubler. Carefully set the doubler in place. Remember that once you set the ply to the balsa, that's where it lives.

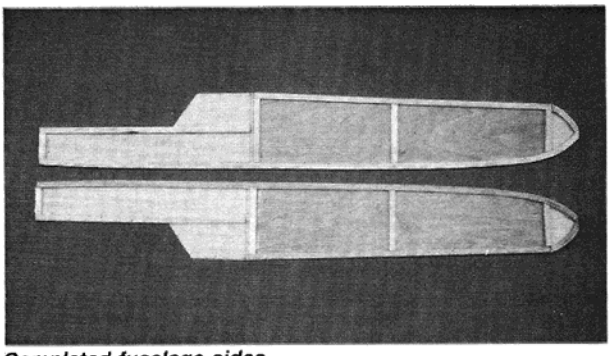
On one side of the fuselage locate F-3 and glue it in place with Super Jet, making sure it is square and true. Now stand both sides



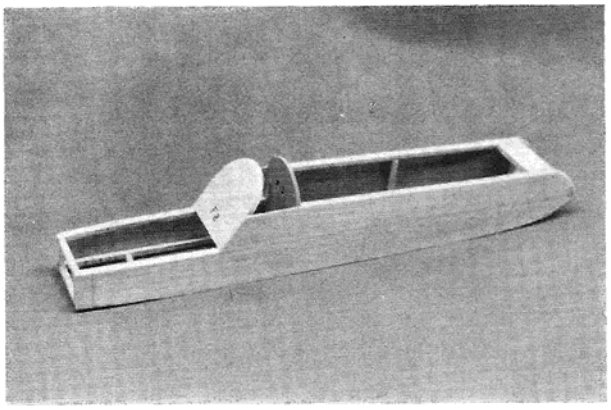
Cyndi Wolfe showing off Charlie's Sorcerer. Note special interest trim creates.



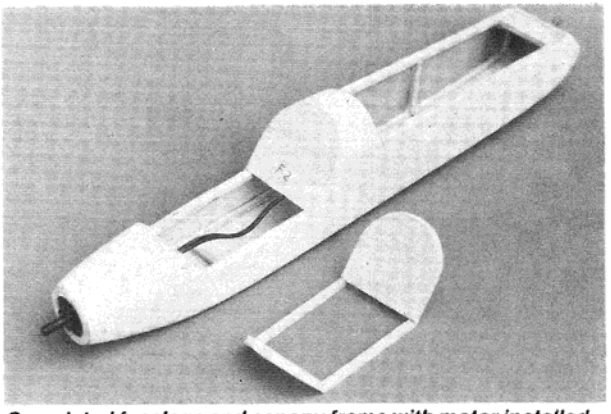
Fuselage and canopy formers. Top left to bottom right. F-1, F-2, F-3, C-1 and C-2.



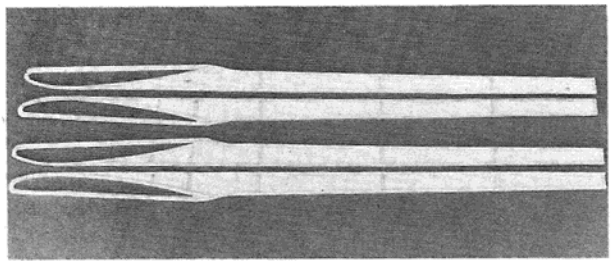
Completed fuselage sides.



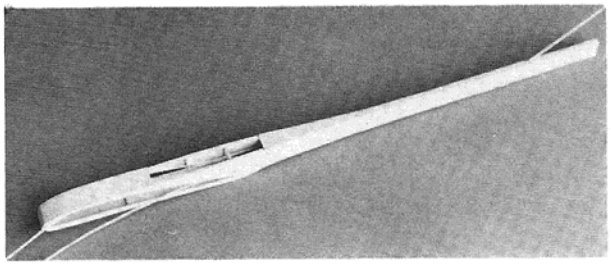
Basic fuselage with F-2 and F-3 in place.



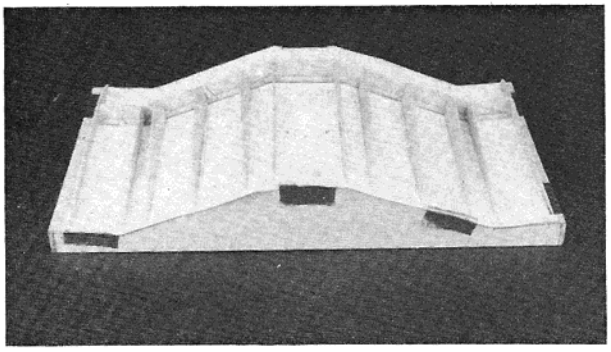
Completed fuselage and canopy frame with motor installed.



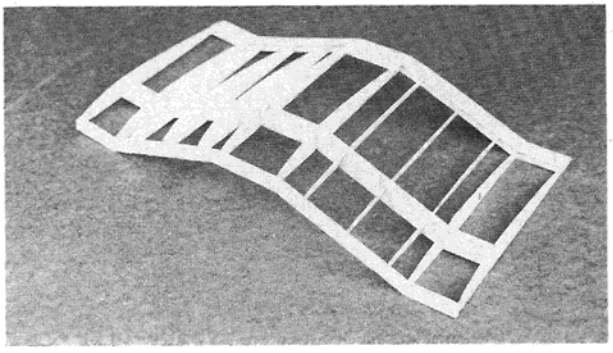
Completed boom sides. Make two left and two rights. Add control cables at this time.



Boom ready for mating to wing.



Wing center section built on wing jig. Note rib angles.

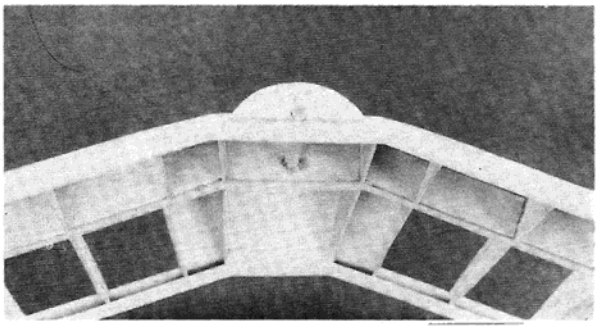


Completed center section less sheeting.

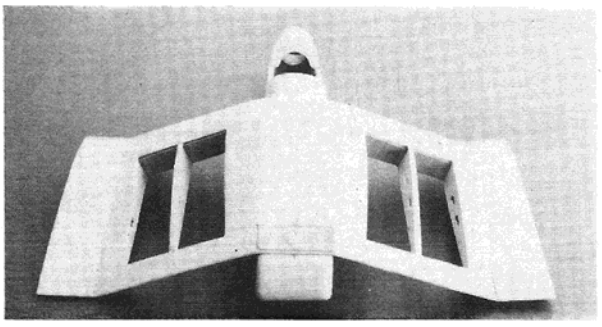
You will have to remove it again later, so don't get heavy with the tacking!

The canopy frame can now be assembled on the fuselage. Pin C-1 and C-2 to the fuselage on top of two 3/16'' sq. lengths of balsa cut to size. Now Jet all the joints. Remove the frame and paint it black. When dry, install the canopy. Later, the finished canopy is held in place with a piece of tape on each side. Reinstall the canopy and mark the block in front of C-1 (sand line). Locate F-1, dead center, on the front of the nose block. Only tack F-1 in place since it will be removed again also. Rough sand the fuselage.

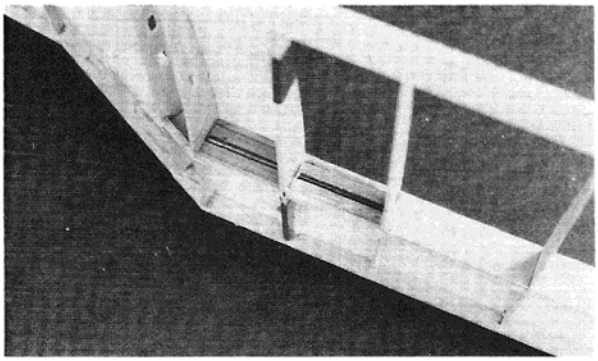
Now is a good time to make the motor tube. Cut a piece of 1/64'' ply in a strip about 10'' long and about 1½'' wide. Wrap the motor, applying Jet as you wrap the ply around the motor. Note that the motor should slide in and out of the tube freely. A piece of masking tape applied once around the motor will secure it in place later. Remove the nose block from the fuselage and F-1 from the nose block. Hollow out the nose block as per plan. Once the block is hollowed, the motor tube can now be



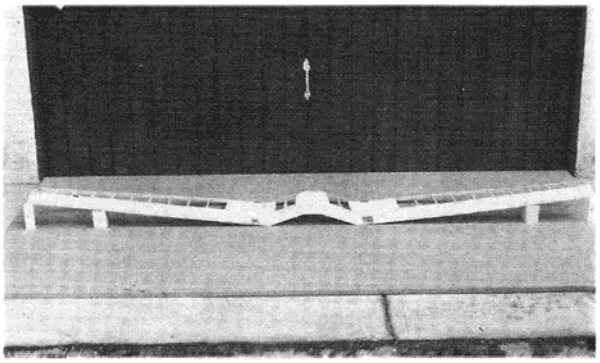
3/16" locating dowel and WC-1 in place.



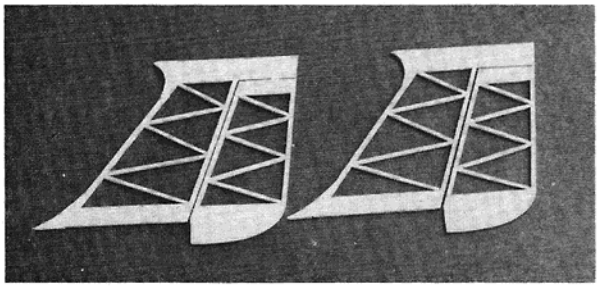
Center section fitted to fuselage.



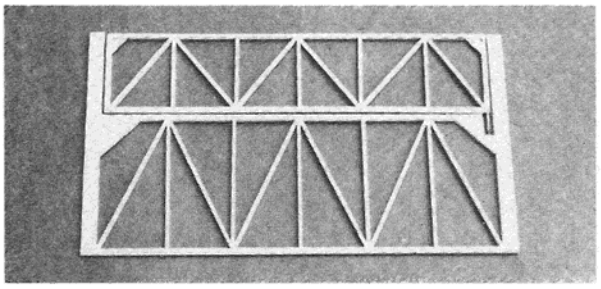
1/8" music wire and tube installation for plug-in panels.



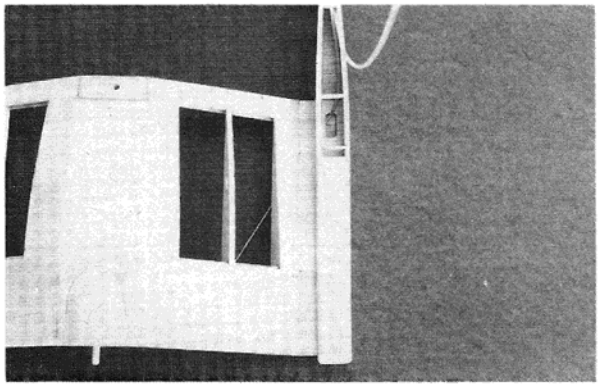
With wing panels blocked up, let epoxy cure overnight.



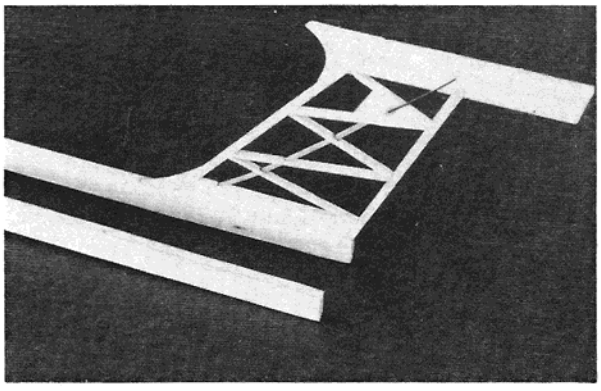
Vertical fins and rudders completed.



Stab and elevator completed. Note elevator horn.



Threading control cable casing through wing with 1/16" music wire.



Vertical fin in place in groove cut in boom.

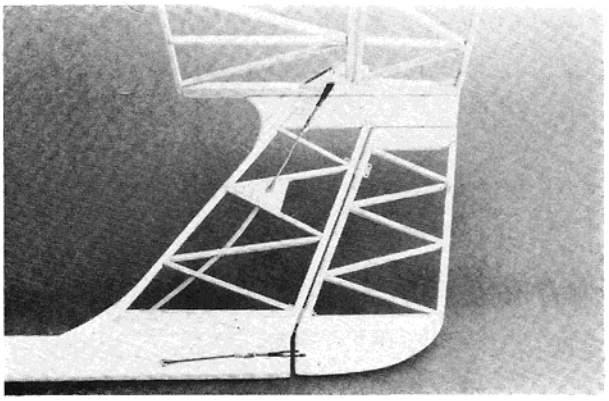
secured in place. Reinstall F-1 and slide the motor tube, with motor installed, in place from the rear of the nose block. Now glue the nose block in place permanently. You should be able to remove the motor from the **rear** of the block should the need ever occur.

You can now do the final sanding and cut the air cooling exit hole in the rear of the fuselage. Cut and glue the skid in place as per plan, then set the fuselage aside.

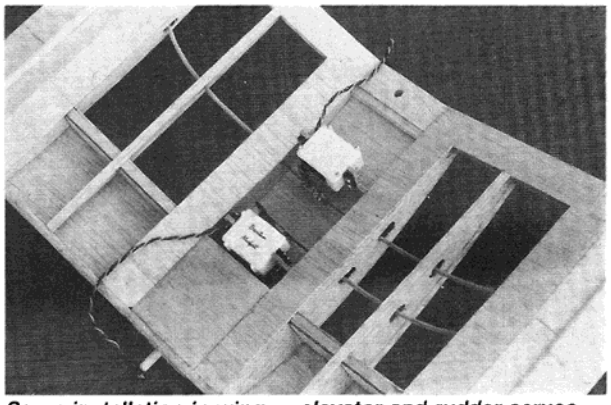
Tail Booms:

The tail booms are constructed like any fuselage side. Lay them out so you have two left and two right sides. Cut and glue the stringers in place as per plan. Note that the stringers are 1/8" not 3/16" like the fuselage. You will note that there are no doublers in the booms. For this particular design they are not needed.

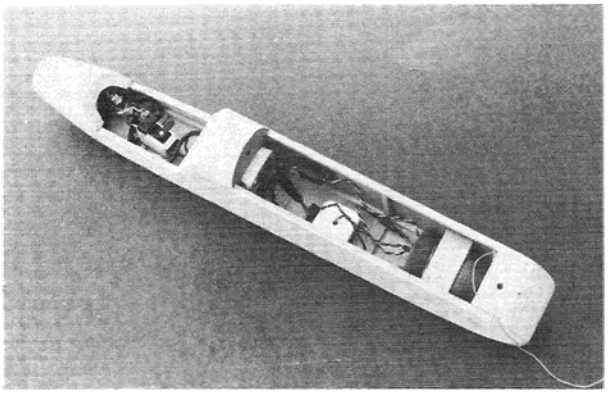
Once all of the stringers are in place, you can notch the ones that the control cables will pass through. Use Sullivan control cable #514 (3 required). At this time you should decide on which side you want the elevator cable to exit. It can be either side. You will have to make the control cable



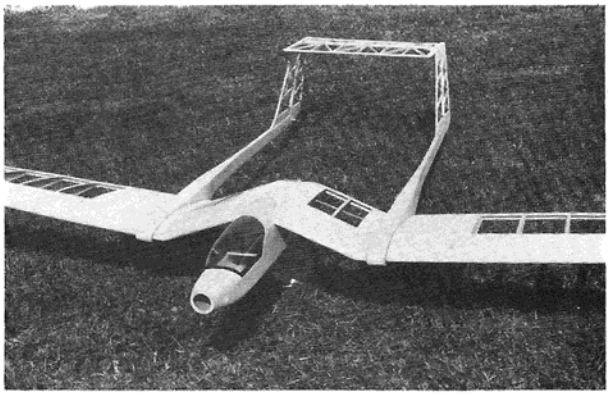
Control surfaces connected.



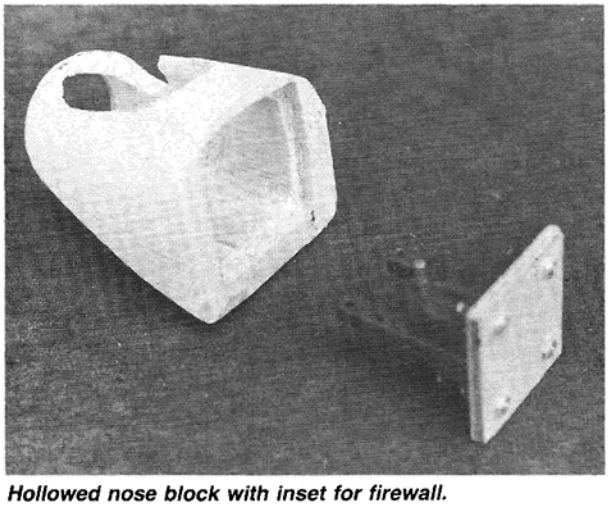
Servo installation in wing — elevator and rudder servos.



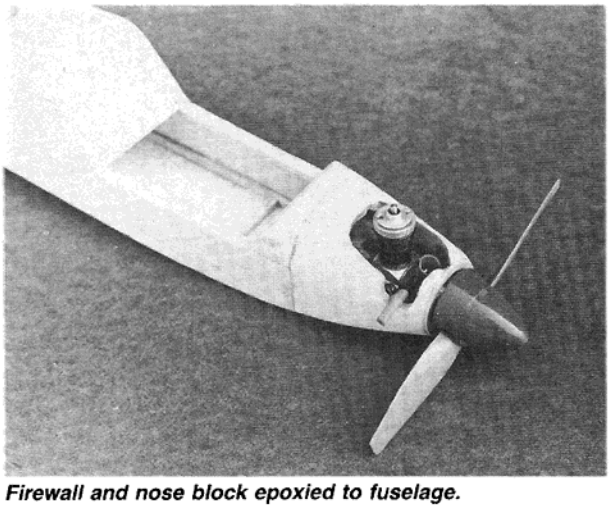
Equipment installed — servo is on-off motor — motor batteries behind canopy area.



No doubt about it, it's a mean looking machine.



Hollowed nose block with inset for firewall.



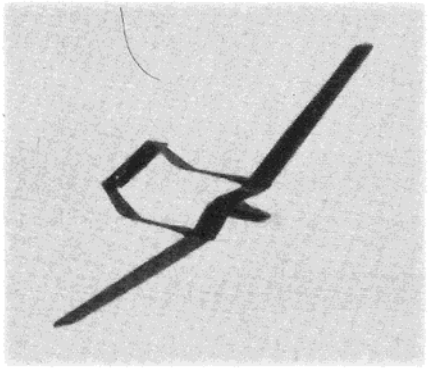
Firewall and nose block epoxied to fuselage.

notches deep enough on one of the sides so that the other side can lay flush when they are brought together in the rear. Note where the elevator cable exits the boom on the plan. Get it far enough forward so you can minimize the bend upward to the elevator to keep things smooth. Once the notching is complete, you can glue the control cables in place. The method I use is to glue the cable in place one notch at a time.

Apply a little sawdust and then Jet it. I have found it is easier to work from the rear, forward. This way you can glue the cable down, where it exits the boom, at a minimal angle. Also note that **both** the rudder cables exit **inboard**. I am assuming at this point that you have put one rudder cable in each boom. Remember, two rudders!

Once the cables are in place you can bring the sides together. Lay the sides, with the cables in them, flat on your workbench. Lay a right side against a left side to see if you've got the cables flush. If so, start running a bead of Jet, working from the rear forward. Glue 2'' or 3'' on top and then 2'' or 3'' on the bottom. The top view of the plan shows you where the sides begin to part, forward to the wing. Stop gluing at this point!

Now place the boom(s) upright and start gluing the cross stringers in place, working your way forward. The front section of the booms are a little fragile and will be until you glue the bottom and top cross grain sheeting in place. So, work slowly and carefully. Now glue the piece of 3/16'' sheet to the front of the boom(s). At this point check the boom(s) against the plan for trueness; also for any 'twist' or 'bowing' that might have occurred up to this point. If there is any problem with distortion, for the moment leave it be. Start gluing the 1/16'' cross grain sheeting in place. Start with the bottom and work from the front to the rear. Turn it over and do the top, again working from the front to the rear. Leave a section



open about 6'' to 8'' long, above the area where the wing trailing edge is located; then continue the sheeting to the rear of the boom(s). The open area is so you can 'feed' the cables through the wing once you install the booms on the wing center section. Once the cables are in place you can add the remaining sheeting.

After you have completed the sheeting, except as noted, you can rough sand the booms. Also pull the cables through the area you left open on the top of the booms. This is so you can slide the boom on the wing when it's time. If you have any twist or bowing, now is the time to straighten it out. A little water and a little heat should remove any problem. Now add the skids to the rear of the booms (both sides please!). If all is well, set the booms aside.

Wing Center Section and Jig:

This structure is the most critical and, if you goof it up here, **nothing** else will line up properly! While building the center section, check constantly to see that things are in their proper place. Keep your work flat on the jig.

Start by making the jig. Trace the pattern, from the plans, on a piece of 3/16'' sheet. Make **three** parts, and make them as close to the same as possible. Essentially what you will make is a box. Glue all the outside pieces together first. Cut two pieces of 3/16'' sheet 1'' x 11''. These two pieces are going to butt on the outside edge of the jig formers. Refer to the isometric on the plan. Now place the third former halfway between the other two and glue it in place. Sheet the top of the formers with hard 1/8'' x 6'' sheet. Note that the grain runs across all three formers. Sheet the 6'' wide sections first. Then add the remaining sheeting, and check to see if your box is square.

From your plans, cut out the part that has the wing center section. Leave yourself about a 1/4'' all around. Tape this part of the plan onto the jig you have just completed. Center the W-1's on the plan on the top ridges of the jig. Also check the line of the leading edge against the face of the former. This will square the plan on the jig.

Building the wing center section is like most other wings with a couple of exceptions. The obvious one is the gull and the other is the front main spar webbing, which is, for the most part, one piece.

Start by cutting and pinning the lower 1/8'' x 1/4'' spruce main spar in place. Miter the joints so you have a good fit. Bare in mind that you are pinning to balsa sheet and if you push too hard you'll be building a new jig! Once the lower spar is complete glue the **rear** halves of W-1 and W-2 in place. Make all the ribs 90° to their working surface. Then glue W-3 (both ends of the wing) in place. The next items are WCW-1 and WCW-2. Pre-fit WCW-1. Be sure it butts to all the ribs and the lower spar. You can use the Super Jet here. Run a bead along the lower edge of WCW-1, then quickly place it, holding it in place until the glue kicks. Now run a bead down the ribs. WCW-2 is secured in place the same way. You may have to trim a bit. WCW-2 butts against the inboard side of W-3 — the tighter the joint the better.

We are now ready to glue the top spar in place. I suggest that you rough cut all the pieces first. Work from the outside in. The last piece you will glue down is the center. The front halves of ribs W-1 and W-2 are now glued in place. Take care with alignment. The next step is to unpin the structure. Do not remove it from the jig, just unpin it. Take a piece of capstrip stock (1/4'' x 1/6'' balsa) and slip strips of it under the ribs just aft of the leading edge. This is done to block up the structure in preparation for gluing the leading edge in place. Next, cut, place, and pin down the trailing edge. Now pin the structure back down.

The leading edge is now added. Work from the outside in again. Tight miter joints prevail. Be sure to maintain your 1/16'' gap on the lower edge of the wing. If you haven't glued the rear portion of the ribs to the trailing edge, do so now. Also, glue in place the 1/8'' x 1'' trailing edge stock between the two W-1's. Make the top flush with the top of the ribs. Now glue the top trailing edge in place. Bevel it a bit so you have a wider gluing surface.

The top 1/16'' sheeting can now be added. Sheet between the leading edge and the main spar in the usual way. Try to cut your sheeting so you can butt it directly on top of the ribs where the angles change. The remaining top sheeting goes between the spar and trailing edge on the **two** outboard bays and the **three** center bays. The one rib left on each side gets a capstrip. Also cut and glue a 1'' wide piece of 1/64'' ply at the trailing edge between the two W-1's (so the wing hold-down screw doesn't go through the wing). **Now** you can remove the structure from the jig. Turn it upside down and add the balsa webbing to the rear of the spar, except for the two outboard bays. Once you have done this, you will note that 80% of the 'flex' is gone. Next install the 1/8'' I.D. tubing for the wing attach. The hole you should have drilled when you made the ribs was 1/8''. You will have to enlarge them just a little for the tubing. Once you have done this, slip the tubing through W3. Cut two 1/4'' sq. spruce pieces to fit above and below the tube between W-2 and W-3. Once everything is fitted you can epoxy all the pieces in place. Be sure the tubing parallels the spar. Once the epoxy has set you can add the last piece of balsa webbing. The last item to be glued in place, for now, is the bottom sheeting between W-2 and W-3. Once complete, you can rough sand the leading edge to shape, and any other high spots on the wing. The wing center section can now be fitted to the fuselage. Drill and place the doweling and drill and tap for the wing hold-down screw also. Check for squareness as you would any other fuselage wing combination. (You'll just be using shorter measurements.) Also glue in place WC-1 and sheeting as per plan. Once these steps are complete, set the assemblies aside.

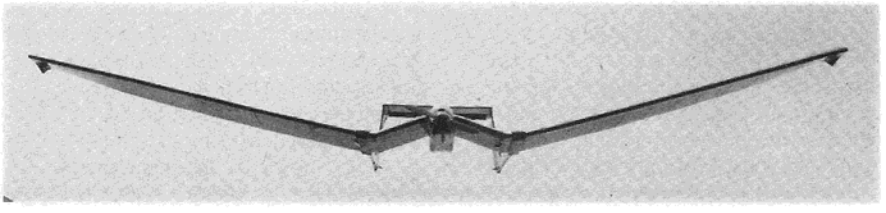
Tail Feathers:

The entire empennage is all stick construction. A couple of notes here: Assemble as per plan! Laminate spruce and balsa as shown. Also be sure to notch the sheet at the top of the vertical fins. When you install the elevator horn, soak the entire stringer with Jet. Place the hinge that is next to the horn, as close to the horn as possible. When attaching the elevator, care must be taken as the hinge slots go through spruce. Once complete, set the assemblies aside.

Wing Panels:

Pin down the lower 1/8'' x 1/4'' spruce spar and glue the ribs and the upper spar in place. Now pull the pins like you did with the wing center section. Cut and pin the lower trailing edge in place, and raise the front of the panel 1/16''. Pin the leading edge in place, and run a bead of Jet along the front of each rib. Install the upper trailing edge; don't forget to bevel it! For the top leading edge sheeting, I have found it easiest to glue the sheet to the rear of the leading edge first. Work your way down the wing applying Jet to a couple of inches at a time. Once complete, you can glue the rear of the sheet to the spar. Quickly run a bead of Super Jet the length of the spar. Find yourself a good solid straight-edge and press the entire sheet to the spar all at once. Hold it there until the Super Jet kicks.

The rest of the top sheeting goes between the first two inboard bays only. All of the other ribs are capstripped between the spar and trailing edge. Be sure you build a left and right panel! Remove the wing panel(s) from the plan. (Glue the 1/16'' ply web in place between W-3 and W-4, on the **front**



side of the spar and run a bead of Jet along the ribs on the underside of the sheeting.) We are now going to install the 1/8'' music wire in the same manner we installed the tubing in the wing center section. However, this time you will not have to enlarge the holes. Cut yourself a piece of wire that will go in the wing center section panel tubing all the way and will leave 1¾'' sticking out. This will give you the correct length. Slide the wire into the 1/8'' hole in W-3. Again, cut some 1/4'' sq. spruce to fit above and below the wire between W-3 and W-4. Apply your epoxy sparingly. Do both panels at the same time. Before the epoxy sets, plug both panels into the wing center section. Drill and secure the 3/16'' dowel locating pins, then block up the outer panels to the correct dihedral. Leave the entire assembly set overnight.

After the epoxy has set, remove the panels from the center section. Glue the 1/16'' balsa shear webbing in place. Now glue the lower sheeting in place between W-3 and W-4 **only**! All other ribs have capstrips that run from the leading edge to the trailing edge on the bottom side of the wing. The last item to install is the 1'' x 1½'' tip block. When you glue the block in place, get as much of the block as you can **below** the trailing edge. This is so you will have enough wood to carve the Hoerner tip to proper shape. Note the diagram on the plan. After you have completed assembly of the panels you can rough and finish sand them to shape, and set aside.

Sub-Assemblies Finish:

Back when you were building the wing center section, I told you to sheet the bottom of the wing between W-2 and W-3 only. The reason for this is that we have to thread the control cables through the wing. Install and trial fit the booms on the wing center section. You may have to sand the booms a little so they slide over the wing. Make it a close fit, but not tight. Note that the outboard side of the booms are flush with the outside of W-3. Once the fitting is okay, remove the booms. Cut a hole in the top of the wing center section sheeting about 1½'' long and 3/4'' wide. Locate the hole just forward of the trailing edge, within the area where the booms will mount. Also, slot all the W-1 and W-2 ribs so you can feed the control cables to the approximate location of where the servos will be. Slide the booms back in place and tack glue them. Check your corner to corner distance and the width of centerlines fore and aft. make sure they are equal. Also check to see that the booms are mounted on the wing square. If you are happy with the fit and the dimensions check out, run a bead of Super Jet around the wing on both sides of the booms.

Now find yourself a 12'' long piece of 1/16'' music wire. Feed it through the last W-2 and the hole you cut in the top of the wing. Slip the cable casing over the music wire enough so it won't slip off, and pull the cable casing through the holes. Be careful not to 'kink' the casing. If you leave the cable in the casing it will help prevent any possible kinks. Once the casing is through the first two holes the rest is easy. Feed it through the remaining holes to the center of the wing. Eyeball where you want your servos to be, then glue the casing in place. Be sure you have the rudder cables opposite each other.

Now glue the remaining bottom sheeting in place on the wing and the two bottom capstrips. Also finish sheeting the tops of the booms, and sand to shape. Now pull your two vertical fins out of the pile and locate them on the rear of the booms. Cut a notch into the booms about 3/32'' deep x 3/16'' wide the length of the fin. You are going to slide the fins down into these notches. (Very strong!) Glue the fins in place, checking for squareness against the boom side and be sure the top of the fin parallels the boom, as this is where the horizontal stab mounts. Note that you will have to notch the fin that contains the elevator cable, in the same manner that you notched the booms. Glue the elevator cable at the angle shown on the plan. The small piece of 1/16'' sheet that you glued in place on the one vertical fin is where the cable should exit. It also gives you something to glue the end of the cable to.

The next step is to attach the horizontal stab. However, before the stab can be attached, you must bevel the tops of the vertical fins because of the inward tilt. Bevel them accordingly. Place the horizontal on top of the verticals lining up all three trailing edges. Tack glue the horizontal stab in place making sure the entire structure is on a flat surface. The amount that the vertical fins tilt inward is 1'' on each side. This is measured from the bottom of the boom to the top of the horizontal stab. Also check the corner to corner distance of the booms once again. Try to hold the measurements within 1/8'' Now install the rudders and the elevator. Sand the leading and trailing edges round. Also round off the outside edge of the horizontal stab. One last item. Cut two 1/16'' slots on the outside edge of the horizontal stab, about 1½'' from the leading and trailing edges. Run the slot down through the vertical fin. Find yourself a small piece of scrap 1/16'' balsa and slip it into the slot. Run the grain the length of the slot, and thoroughly glue all four pieces in place, then sand off the excess. This procedure greatly strengthens the joints between the fins and stab. Do not omit it!

Radio Installation:

The radio I have used in the prototype Sorcerers is one of those sub-mini types. There is only one area where you will have a little bit of a space problem. That is the area where you will mount the control surface servos. Here you have a useful width of only 2⅛''. The standard size servos will not lay horizontally in the wing center section. If this is all you have, mount the servos vertically. This should work without any problem. Once the servos are installed, hook them up accordingly.

The remainder of the radio is installed as per plan. You may have to jocky the components around a bit to achieve the proper C.G. Also, try to use a 225mh battery pack. As you know these battery packs are half the weight.

Motor and Battery Installation:

Wrap the motor with one layer of masking tape. Then slip it in place from the rear of the nose block. The motor battery mounts horizontally between F-2 and F-3. Place the battery (slide it through the rear of F-3) and pack it with foam on the sides and bottom, leaving the front and rear open for sufficient cooling.

By now you are probably wondering where the air inlet hole for the motor battery is. It's in the canopy. Make the inlet hole in the canopy about 5/8'' in diameter and as far forward as possible.

The charge jack for the battery is in the front of the fuselage under the canopy. Here you have easy access and one less item sticking out of the fuselage. The throttle servo is also located here. I have substituted the motor on-off switch for a micro-switch which is epoxied to the throttle servo so extreme travel of the servo activates the motor. Note that the throttle servo is not mounted in any way. To date this has not proven to be a problem. If you're the nervous type, feel free to mount it. But, remember, it's just that much more weight.

Finish:

I have used MonoKote on the prototypes. I recommend you use one of the heat shrink type coverings. The structure design is such that the covering carries no load. So, if you like the low heat type coverings, feel free to use them.

As you can see, the color of Sorcerer is black. This color, in my opinion, is part of the design and further contributes to setting it apart from the rest of the crowd.

Trimming and Flying:

Once the wing panels are covered, add about 1'' of wash-out to the last four bays at the tips. Set the control surfaces (rudder and elevator) for 1'' deflection each direction. I have not mentioned mounting the prop until now. For some mysterious reason it always seems to get broken while all of the above is going on. The prop best suited for this application is an 8/4. The Goldberg spinner **must** be modified as per plan. Once the spinner is modified, install prop and spinner. If you haven't already charged your radio batteries, do so now.

Let's Go Flying! Once at the field, plug in the wing panels. Secure them in place with a piece of tape on the bottom side of the wing. Run the tape from the leading edge to the trailing edge. You will find this method of attachment works quite well.

Now secure the fuselage to the wing and don't forget to plug in the servos!

When Sorcerer is together set **him** on the ground, and start charging the flight pack. Ground check your radio. Once the flight

pack is charged, turn on the radio again and give the motor a quick burst to be sure it starts and stops properly. Check your C.G. one last time. Before your first flight, you should take a couple of jaunts down the road to see if Sorcerer glides properly. No drifting left or right --- straight glide only! If the glide seems satisfactory, you're ready to go.

By now, if you're out at your favorite flying site, some of your buddies have started to gather around you, all wondering what this strange looking animal is. Just smile and head for the runway. If you don't, you'll be there for an hour explaining what this thing is. Once out at the runway, radio on, quick test, motor on, and one gentle toss into the wind. Your motor will run approximately 6 to 8 minutes. If there is the slightest inkling of a thermal out there you will need only half the time on the motor run. Sorcerer will climb almost like it was shot out of a high start. Once at altitude, shut the motor off and add a little up trim.

My second flight with the second prototype lasted almost a half hour! And I still had half the charge left in the motor batteries! At the time, I was out at the world famous Sepulveda Basin. At the half hour mark, the guys back in the pits were starting to pick up sticks, form little groups, and were heading for the runway. I decided it was time to bring Sorcerer in. Boy, you power guys can get really hostile! From that day forth, I have been using this little hill out in the weeds (nobody there to heckle me but the birds).

Landings are the same as almost any other sailplane you have flown. Keep your approach glide flat. As you know, sailplanes don't like steep turns close to the ground with no means to gain speed again. The only exception to this is that you know you still have some 'juice' left in the motor battery and you are comfortable with your bird.

Those of you who wish to expedite the building process, please refer to my current ad in RCM under Parker R/C Planes. I have some semi-kits for you that will be most helpful. In the near future, Sorcerer will be released as a kit, but if you scratch-build, order your plans now!

My sincere thanks to Dick Kidd for taking an afternoon to 'road test' Sorcerer with me, and for tolerating a thousand and one questions.

Good flying □

Editing By Hlsat.
RCModeler
Aug.1980.