Consortium

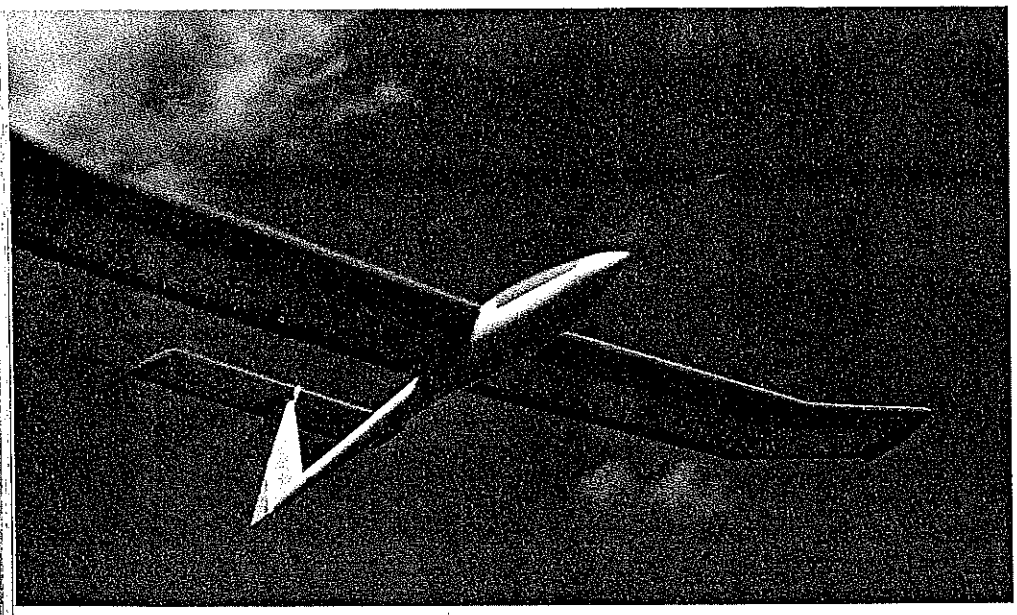
This slick 60-in.-span, 20-oz. T-tail Sailplane can be launched from a small field either by hand or with a small high-start. Its unique design and construction approach features a strong, lightweight fiberberglass fuselage and a wide choice of airfoils—or you can design or use your own favorite airfoil in either a one-piece or plug-in wing. ■Tom Hunt

IT WAS A CASE of a lunchtime flying squeeze. As the company I work for has expanded, my lunchtime flying field has been shrinking around me. At this writing, the dimensions of the field are approximately 150 yards square, down from nearly 400 yards square.

This tremendous loss in area had already prompted the elimination of all RC aircraft over .20 cu. in., and I knew that something needed to be done to efficiently and safely utilize what was left of the field. I have always liked the idea of flying Gliders at lunchtime. They're clean and require less field support equipment (no big, heavy field box). But when I did some research on the small Hand-Launched RC Glider kits currently available, I didn't find anything that really grabbed me aesthetically. It was a short jump from there to the decision to design my own, and Consortium began to take shape.

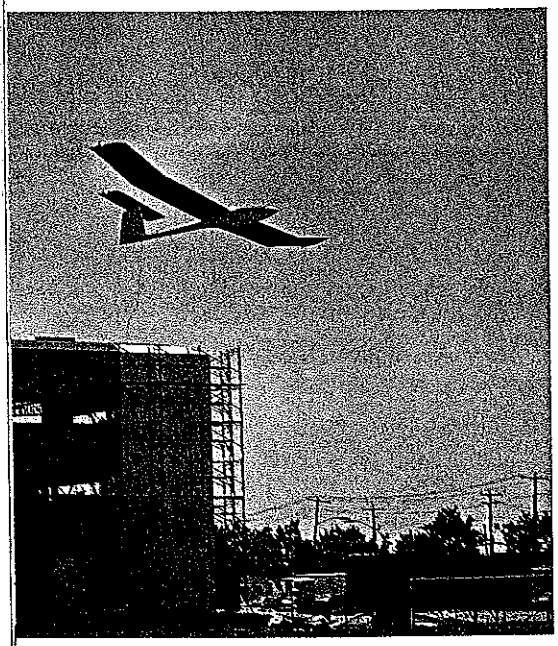
I decided on my design requirements. If built with a one-piece wing, the aircraft had to fit easily into my small Toyota liftback. If made with plug-in wings, they would have to be strong enough to take a standard high-start tow load. Then the fuselage had to look sexy—no slab sides for me! Strong

Top: Consortium in flight on what looks to be promising thermal weather. For a 1.5-meter Sailplane she looks and flies much like her larger counterparts. Above: The author launching his M-45 airfoil-equipped version at Vermont Mountain Retreat. The small high-start launched the Glider high enough to go thermal hunting over the thickly wooded slope in the background.

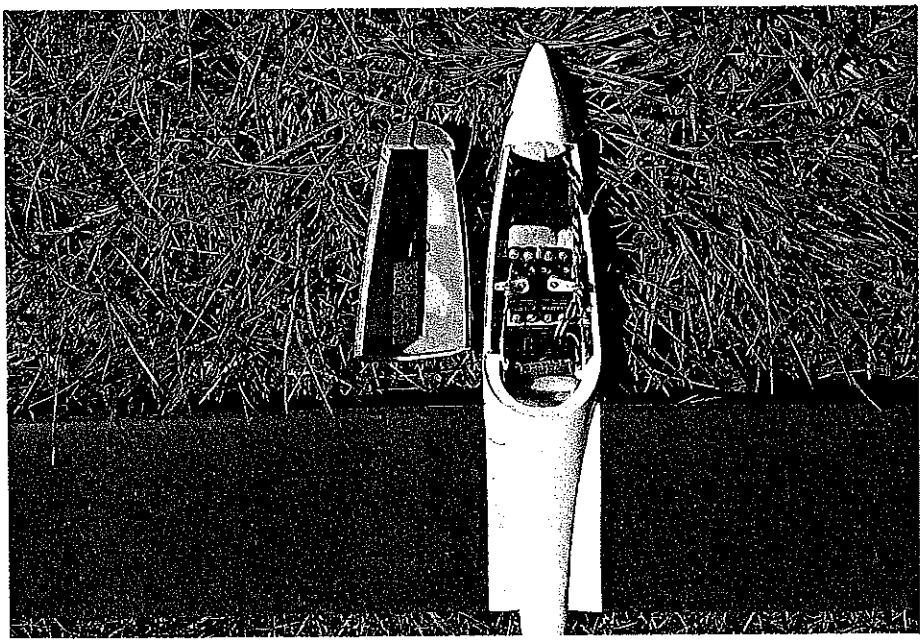


This Consortium was built by the author's friend, Ron Farkas. It's equipped with an Eppler 201 airfoil, giving it a thinner wing and making it slightly heavier (by about three ounces) than the author's prototype. This thin-winged version flies just as well but is considerably faster.

Ron Farkas launching his Eppler 201 airfoil-equipped Glider on a high-start. The structures in the background give some idea of the limited size of their lunchtime flying field.



Consortium flying past the expanded office building complex that spawned the idea of developing this small multifunction Glider.



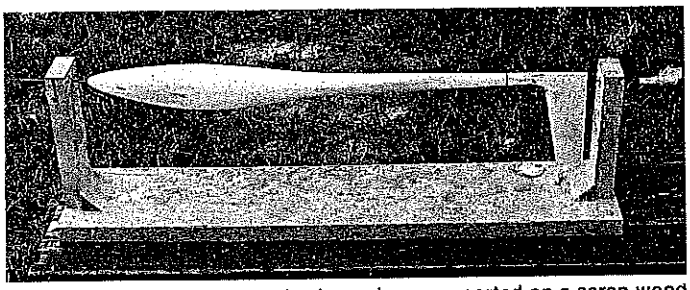
It may be a tight squeeze, but it all fits. Ron Farkas' Glider is seen here with its 225-mAh battery pack, standard Futaba servos, and, hidden under the wing, a rather large Futaba receiver. Note the stiffeners around the Fuselage cutout and the (upside-down) canopy.

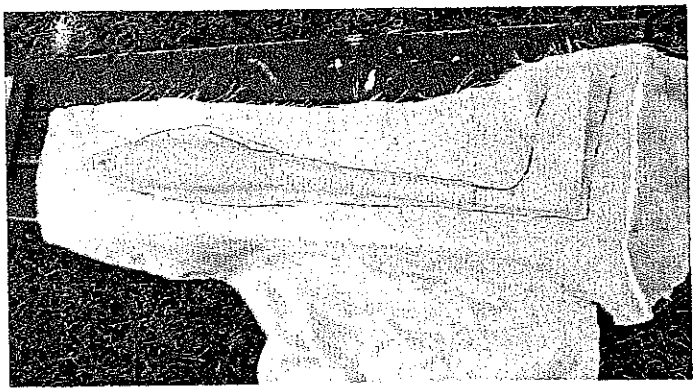
The Consortium crew. From right to left, Bob Aberle, Ron Farkas, Howie Applegate, author Tom Hunt, Hank Stumpf, and Nick Dannendorfer. Other Consortium builders (not pictured) include Paul Bell, George Myers, Scott Conover, Bob Roth, Jr., Phil and John Kleisler, and Ron Zulow. Phil Kleisler recently finished and flew his Clark Y-equipped Consortium, and it's understood that RAF 32 and Eppler 193 airfoil-equipped versions would soon be flying.

T-tail for looks, performance, and out of harm's way while launching and landing. Rudder/elevator for control to keep it simple, but with variants to include coupled aileron and rudder. Finally, the aircraft should have a lightweight structure for good performance.

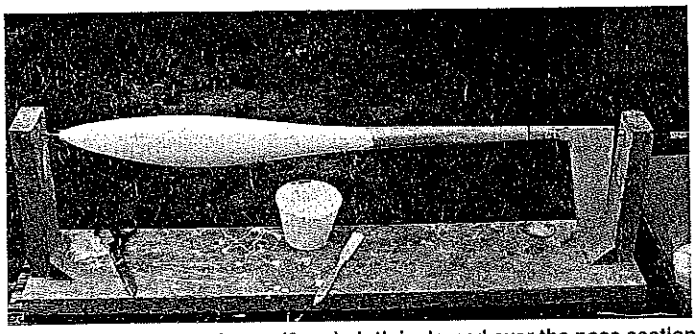
The design emerged as a 60-in.-span, built-up, constant-chord, polyhedral wing. Wing area is 345 sq. in. Building a shapely non-slab-sided fuselage out of balsa would have added too much weight, so fiberglass construction was chosen (more on this later).

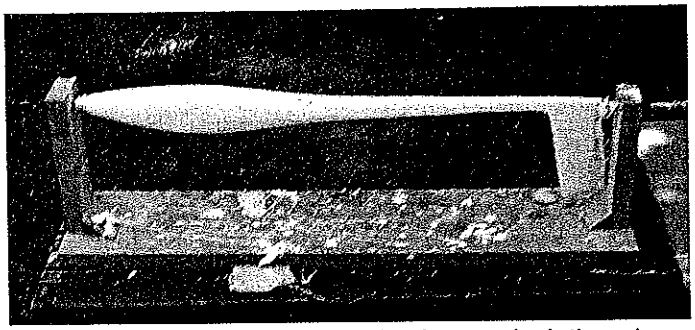
Control is provided by a constant-chord stabilator on top of the molded-in fin/fuselage with an adjoining rudder. Though it may seem rather bulbous to some tastes, the fuselage is proportioned to permit use of standard-size radio gear. If you use a 225- or 100-mAh receiver pack, your total weight may be little more than what you'd get with



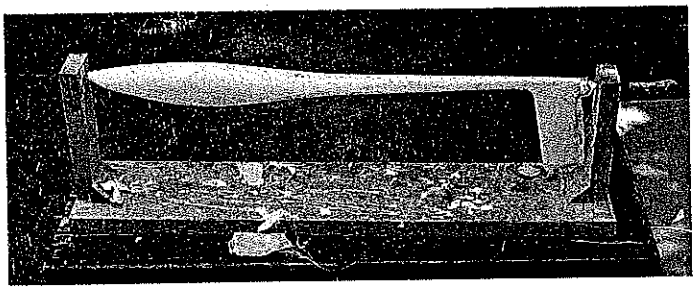


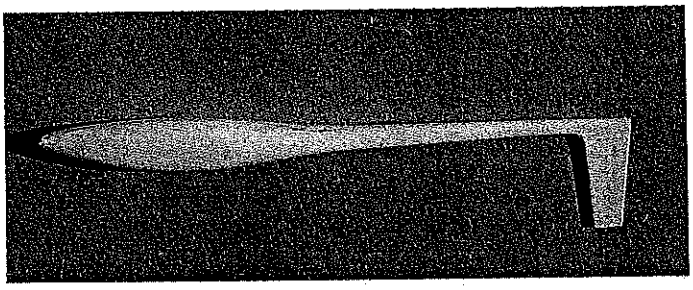
Above: The wooden plug is shown here supported on a scrap wood holding fixture using two ⅛-in. drills, one in the nose and one in the fin. At this point the plug is liberally coated with release agent. Right: The plug is laid down onto 2-oz. glass cloth which is marked all around and then trimmed out about ⅜-in. larger than the plug.





Left: At this stage, heavy (6-oz.) cloth is draped over the nose section from the area near the trailing edge forward to the nose. Apply the resin generously. Right: In this photo, 2-oz. cloth has been applied from the wing trailing edge point aft to the fin, plus some forward overlap.





Left: Here a second layer of 2-oz. cloth is draped over the entire fuselage while the underlying layers are still wet. The still wet resin is then worked into the second layer. Right: The cured fuselage, with the plug still inside, has been carefully wet sanded until it's perfectly smooth.

some systems that offer just miniservos and a standard-size receiver. Total weight of the model should be between 14 and 20 ounces.

Something told me that this project was going to be popular with many of my fellow fliers. Sure enough, no sooner had I showed around some of the first draft plans and mentioned that the fuselage would be fiberglass, than the dreaded words (for those not in the business) were heard—"*I want one!*"

So I offered to produce the fuselages for club members, but at no cost. All I expected in return, I told them, was that the airplane be built and not just collect dust in the basement. I also expected posed photographs of all builders with their models near press-time—finished or not.

Thoughts of lunchtime Precision Duration contests soon followed. The builder would vary the basic design only by choosing his own airfoil. This could be one of the airfoils shown on the plans or another of his own choice.

Construction

Fuselage. Fiberglass construction tends to scare a lot of people away, especially when it must be done from scratch. In this case, "from scratch," means creating a master out of some easily workable material (basswood, foam).

Prepare the master with a release agent. Position it on a jig so that one half is exposed, and begin heavy glass layup on the exposed surface to produce a female mold of one half of the fuselage. Allow this first half to cure, then flip over the master and repeat the process for the other half. Use medium-weight glass to lay up your fuselage in the molds.

Join the two halves while they're still wet and in the molds. After final curing, separate the molds and sand the edges of the newly formed fuselage. Whew! You've finally got something to which you can attach the wings and tail! It's a lot of work for one fuselage (unless your Consortium will also be a club venture).

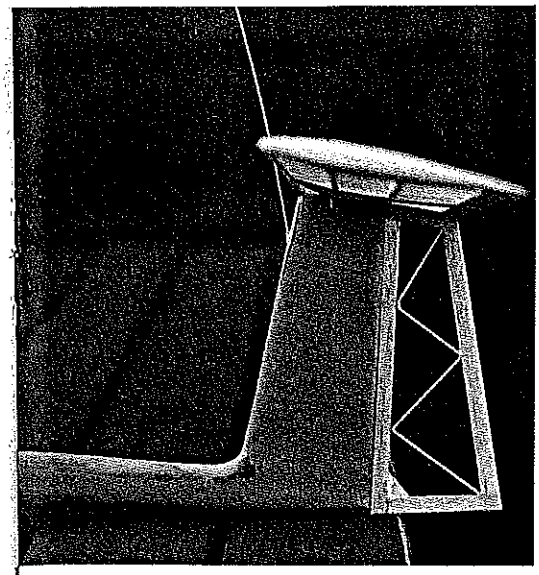
Keep in mind that the smoother and more accurate the master, the better the mold. However, there's an easier—and equally satisfying—way of creating a light, strong fiberglass parts mold. All that needs to be done is to create the shape of the part in a soft wood (pine is fine, but basswood is better).

Carve the shape into the wood using templates as a guide. It isn't necessary to replicate the exact contour; just be sure the part looks symmetrical. When the shape is satisfactory, seal the wood with a sanding sealer. Drill a ⅛-in. hole in the nose and another in the tail to support the part in a jig. Any type of crude jig built from the household lumber pile is fine (see photos).

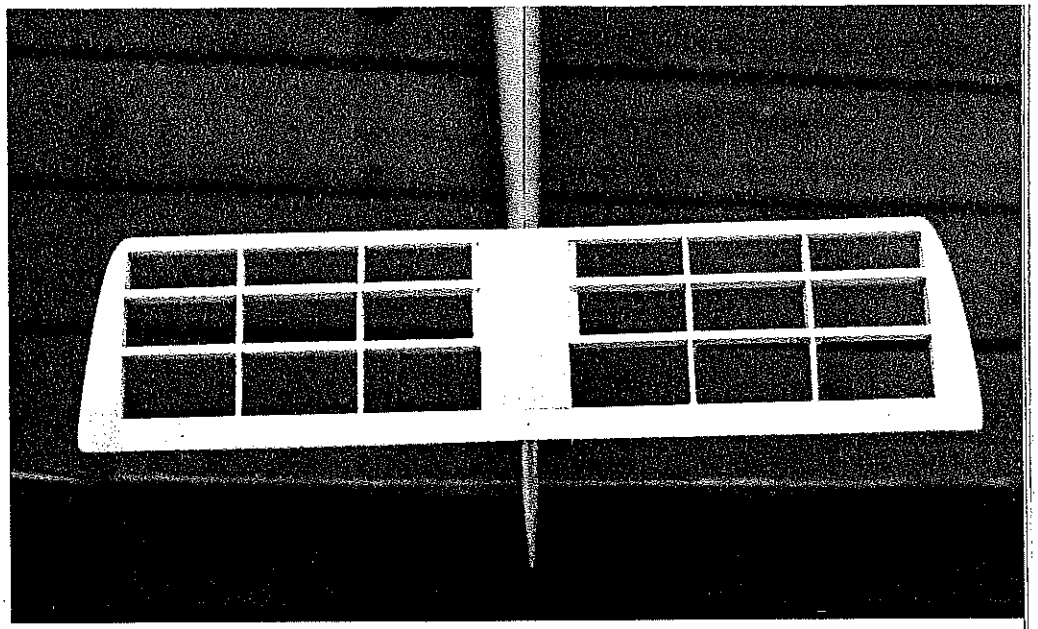
Cover the entire mold with fiberglass release agent (available at most auto supply stores or marinas). Cut out an oversized piece of 2-oz. glass cloth (K&B medium) in approximately the shape of the fuselage. Drape this cloth over the left-hand side of the fuselage, and gently coax it by hand into the shape of the fuselage.

Mark the fiberglass with a felt-tip marker about ¼ to ⅜ in. farther around onto the right-hand side of the fuselage, continuing all the way around the profile. Remove the glass, and cut along the line you just finished marking. Put this piece of glass onto some stiff cardboard, and transfer the shape. Cut out the cardboard duplicate. This is now your pattern for producing all your glass layers.

After much experimentation the strongest and lightest fuselage was obtained by cutting out two (for the left and right sides) lay-



This side view shows the fiberglass fin, built-up rudder, and airfoiled stabilator. Note that this is an early, smaller version of the rudder that proved to be inefficient. A larger, more efficient rudder is shown on the plans.



The horizontal tail sitting atop the fiberglass fin. This stabilator can be built flat or as an airfoil. The author believes that the Glider performs better with the airfoiled configuration.

bonding anything to fiberglass. Although the bond feels strong in tension, the glue cannot take the shearing forces produced when the fuselage flexes or encounters a sudden impact as in a hard landing. The RTV or silicon glues make a good alternative, regardless of the type of resin you used. The overnight cure types such as Dow Corning's 3145 high-strength/high-temperature silicon glue/sealant work best. These can be found in any good electrical supply house.

Again, no matter what glue you use, be absolutely certain that all the release agent has been removed from the mating surfaces inside the fuselage.

Sand down the fiberglass on the nose until a clean cross section is obtained. Cut a small block of pine to the approximate shape of the nose, then glue it to the fuselage. Sand to shape, making sure the nose radius is not too sharp.

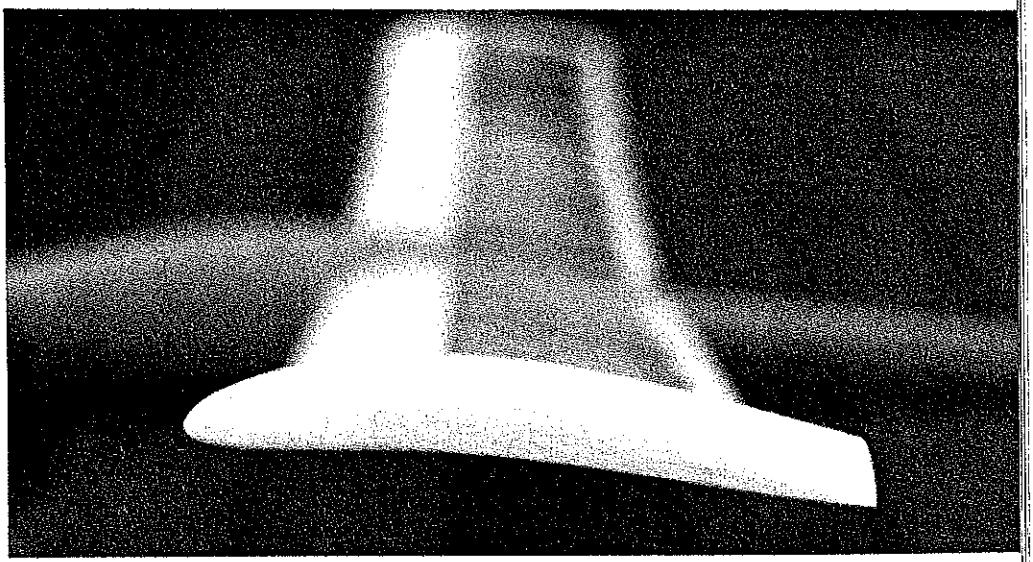
Cut out and glue the canopy area stiffeners (⅛-in. balsa with 1/64 ply doublers) to the fuselage, then cut out and glue the stiffeners for the canopy itself. Glue the 3/32 ply inner liner to each side of the inside wall of the fin halves, assuring a 3/32-in. gap between the two liners in which the 3/32 ply blade glued to the stabilator will slide and pivot. Install the two Sullivan light cables and their sheaths in the aft fuselage at this time.

At this point another decision must be made: Do you want a one-piece airplane or one with plug-in wings?

For a one-piece wing, mark the fuselage to conform to the chosen airfoil, and cut away the necessary fiberglass. Set the fuselage aside until final assembly.

For plug-in wings, position and firmly epoxy the 3/16-O.D. brass or aluminum wing rod in place, then set the fuselage aside until final assembly.

Wings. Basic top and bottom spar construction is used. To save weight, only the upper leading edge is sheeted. Choose one of the airfoils shown on the plan, and cut 26 identical ribs.



An end view of the down-turned carved Hoerner wing tip blocks. The Hoerner wing tip is designed to minimize air flow turbulence across the end of the wing, enhancing efficiency.

Construct the outer panels first, building right over the plan as per standard procedure. Pin the ribs in place, add the leading and trailing edge stock, and install the top spar. Add the leading edge sheeting, remove the wing from the plan, and install the lower spar.

Though I don't think shear webs are necessary in the outer panel, conservative types may want to add them. If so, do it now. Install the wing tip blocks, and sand to shape.

The inner panel is built much the same way but with a few exceptions. The outboard rib must be canted to match the outboard section at the correct dihedral angle. The first three ribs must be notched to accept the one-piece wing dihedral spar, or the subspar tube mount for plug-in wings.

If you're building a one-piece wing, glue the one-piece spar to one of the inboard pannels. Join the two inboard halves, checking that the dihedral is correct. Fill the space be-

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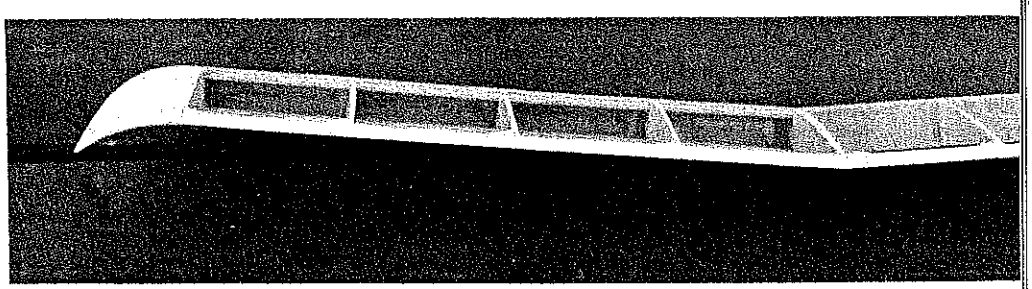
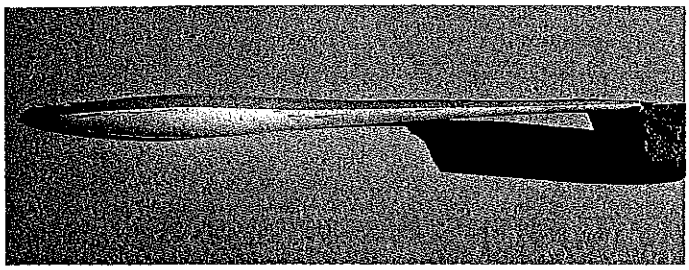
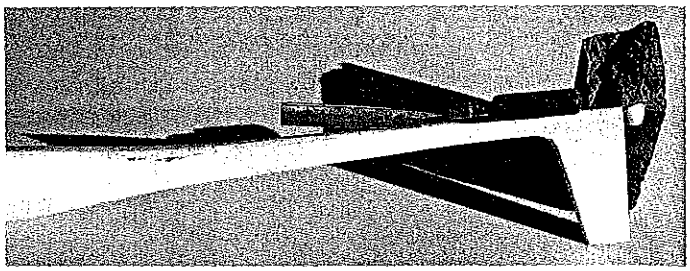
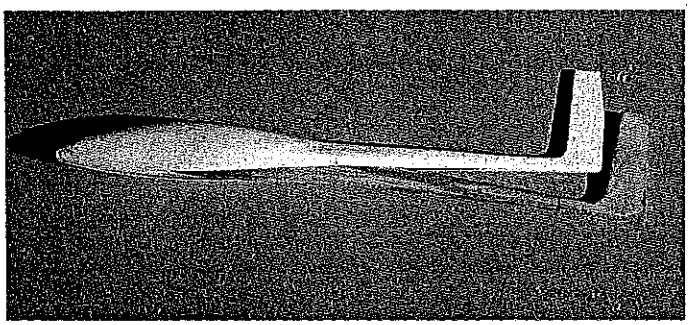


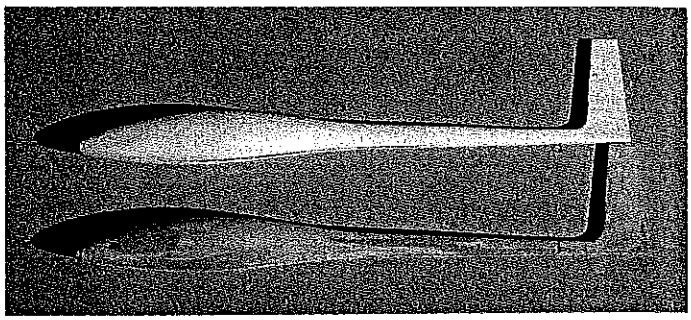
That downward turning wing tip as seen from this trailing edge shot of the outer left wing panel. Note that there is no shear webbing in the outer panel. It can, however, be added if it makes you more comfortable. Bear in mind that extra strength translates into extra weight.



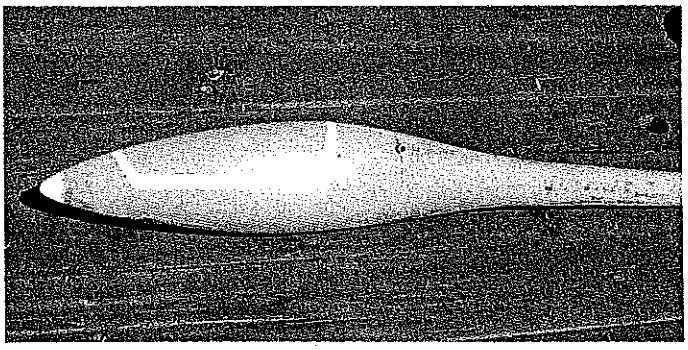


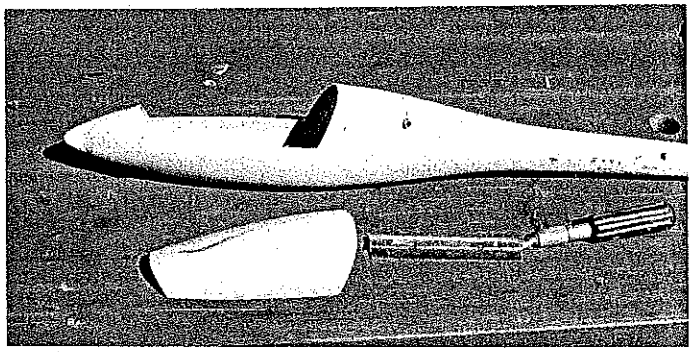
Left: This photo shows the bottom seam. Carefully apply five or six layers of masking tape along one side of this seam to act as a guide for the X-Acto saw seen in the photo at right. Right: The saw is used to split the entire bottom of the fuselage open (sort of like gutting a fish).





Left: After a complete incision has been made, the fuselage plug may be extracted from the glass fuselage by pulling from the fin, as seen in this photo. Right: The fuselage plug (bottom) completely removed from the new glass fuselage. The plug can be used over and over again.





Left: The area for cutting out the canopy is masked off. Note that the hole in the fuselage just aft of the canopy is for the 3/16-in. steel wing rod. Right: The canopy has been cut out using the X-Acto saw in the photo. Stiffeners must now be installed in the canopy and fuselage.

ers of the entire profile from K&B medium-weight cloth (approximately 2 oz.). This cloth becomes the outside layer. To make the inside nose layer, cut out two profiles from approximately the trailing edge of the wing forward using K&B heavy cloth (approximately 6 oz.).

Cut two profiles from K&B medium cloth from the trailing edge of the wing aft to the fin, allowing some forward overlap. This is the inside layer of the tail boom and fin.

Begin laying up the heavier nose layer. Don't worry that it doesn't conform to the tight nose radius—we'll fix that later with a pine nose block. Continue the wet layup with medium-weight glass cloth aft of the wing position.

When these sections are secure, drape the full-length piece over the first layers, and dab a dry brush against the glass to bring all the resin to the surface, wetting the outside layer thoroughly. Try to get the outside layer thoroughly wet without using any additional resin from the cup, since it will have to be sanded off later if you do. Allow the resin to cure thoroughly, then remove the glass-wrapped plug from the fixture.

Take this to your slop sink in the basement (You don't have a slop sink? You don't have a basement? And you call yourself a modeler?!), and start wet sanding your fuselage while it's still on the plug. Continue sanding until you're happy with the finish.

Don't prime your fuselage with sandable primer unless you want to sand it all off between coats. The primer does highlight the holes and lumps very well, but it's also very heavy. Once the finish is acceptable, apply three or four layers of masking tape along the entire bottom centerline of the fuselage length.

Remove your reusable plug by cutting through the fuselage along this masking-tape guideline with a fine-toothed X-Acto saw. Don't worry about scratching up the plug while sawing. It's the outside of the fiberglass, not the outside of the plug, that needs to be smooth for a nice finish. (After 13 fuselages, my plug looks like heck but still produces nice parts.)

Once you have sawn through the entire bottom of the glass fuselage, begin prying it off the plug. If the plug was properly waxed, it will separate easily from the glass. You should be able to quickly extract the plug through the bottom of the fuselage with minimal effort.

You now have a choice to make. You must rejoin the lower fuselage with a ½-in. strip of cloth and resin. You can do this on the outside, sanding it smooth after curing; or you can proceed to lay out and cut off the canopy, and then rejoin the lower fuselage from the inside. Believe me, doing this from the inside isn't easy. Reaching down that long, narrow tail boom to place the cloth and the resin is difficult, though it's certainly possible for those experienced at glass work. Glue in the fin tail post once the canopy has been cut off.

Let me say a few words about the compatibility of glues and fiberglass. If you used polyester resin to lay up your fuselage, you must use it as a glue as well. Five-minute epoxy won't stick well to polyester, no matter how clean or roughed up the surface. However, if you used epoxy resin as a laminate, any standard epoxy glue may be used. Be sure, though, to clean the mating surfaces thoroughly with alcohol or thinner and rough up the glass a bit.

Do not use CyA (cyanoacrylate) glues for

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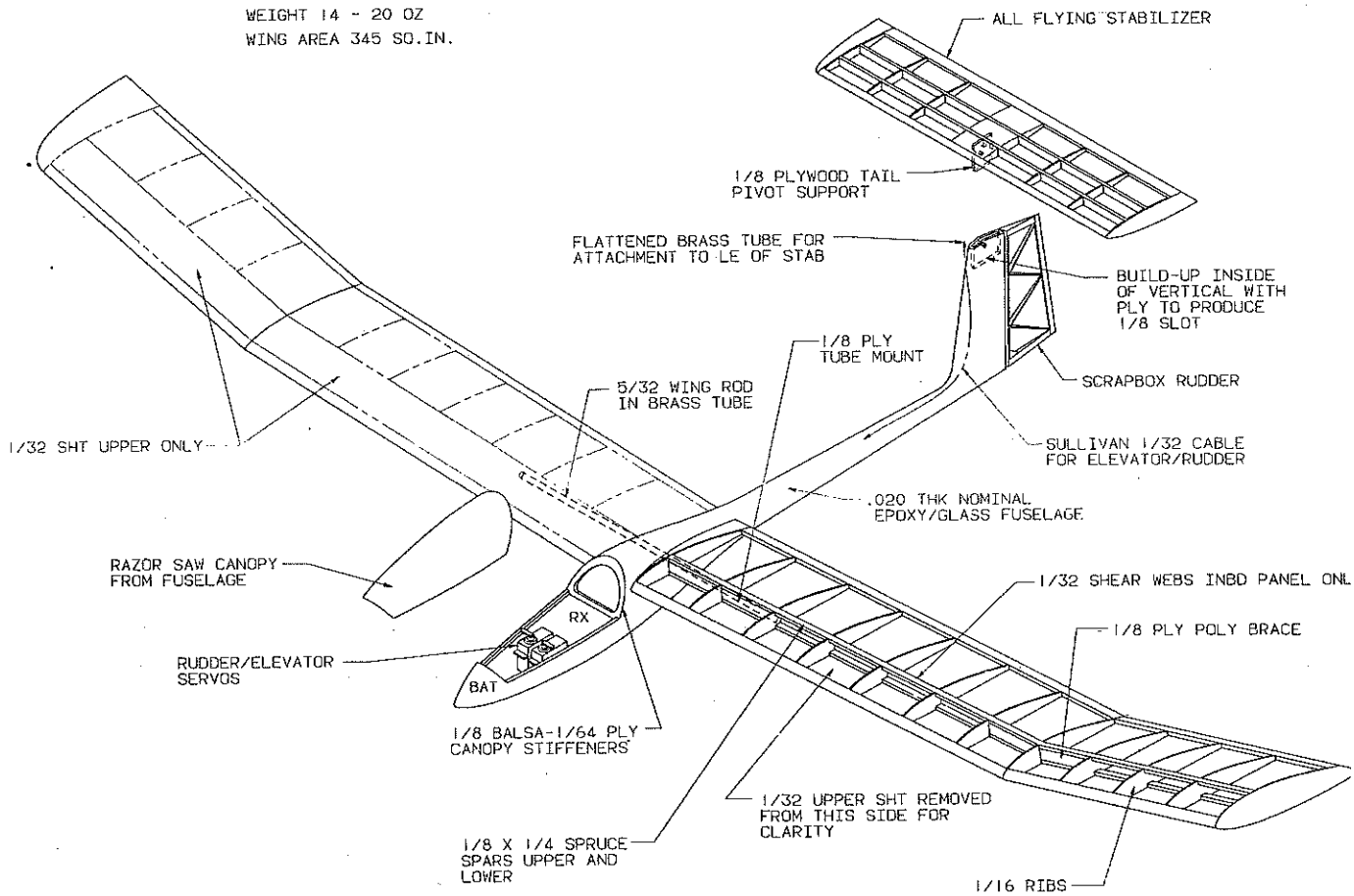
CONSORTIUM BY TOM HUNT

60" HAND LAUNCHED/SMALL HIGH START SAILPLANE
WEIGHT 14 - 20 OZ
WING AREA 345 SQ.IN.



tween the wings with a solid block of soft balsa, and sand to the airfoil shape.

If you're building the two-piece plug-in wing, glue the ⅛-in. Lite Ply tube mount subspar to both inboard sections. At this point the brass wing tube must be installed. Clear the root rib so that the tube will rest just under the bottom of the top spar. The second rib should be cleared in the middle, the third rib cleared just above the top of the bottom spar. This will achieve the maximum dihedral angle possible with whatever airfoil you have chosen. Insert the tube, and epoxy it liberally to the ⅛-in. Lite Ply tube mount joining the upper and lower spars.

Add the wing root filler block. Sand the block to the airfoil shape, and carve it to fit the fuselage upon assembly. Add the 1/16-dia. pin to the leading or trailing edge to secure the incidence angle when plugged into the fuselage. Join the inboard sections to the outboard panels using a ⅛-in. Lite Ply dihedral brace at the spar and the trailing edge.

Horizontal tail. If you favor slab tails for ease of construction, ignore the airfoil shape shown on the plan. If you believe, as I do, that airfoiled tails make for better control, proceed with the following steps.

Build the tail as if you were building a ⅜-in.-thick slab tail right over the plan. When the tail is dry, cut out two plywood templates in the airfoil shape and tack glue them onto the tip caps. Sand the tail using a long sanding block with 120-grit paper (anything rougher may snap the ribs).

Cut out a slot on the horizontal tail centerline to accept the 3/32 ply blade pivot. Drill a ⅛-in.-dia. hole in the 3/32 ply pivot, insert a ⅛-in.-I.D. brass tube into the hole, and sand flush with the blade. Cover the tail, but not the blade, with your favorite heat shrink material.

Rudder. Like the horizontal tail, the rudder can probably be built out of your scrap box. Build it slab sided over the plan.

When the glue is dry, remove the rudder from the plan and sand it to a wedge shape. Bevel the leading edge on one side only—a minimum of 30° produces the proper deflection when installed. This one-sided bevel allows you to surface hinge the rudder (with tape or trim MonoKote) on one side of the fin, giving more effective rudder control.

Assembly. Drill a hole in the fin throu the glass cloth and the 3/32 ply liners for t horizontal tail pivot. Insert a ⅛-in.-I.I brass tube, gluing it securely. Remove t section of tube in the slot created by the t 3/32 ply liners. Insert the horizontal tail bla in the slot, and line up the holes. Place 3/32-dia. brass pin into the pivot holes check for alignment and freedom of mo ment. Lightly sand away any part that bin

If making the one-piece-wing version, sert the wing through the opening in the selage, checking for alignment and in dence. Sand the fuselage as necessary to sure a good fit and straightness. Worki through the canopy opening, glue the wi to the fuselage, using five-minute epo mixed with microballoons.

For the plug-in version, all that needs be done is to carve out the inboard fil block so that it fits the fuselage snugly. you're not much of a carver, it isn't nec sary to achieve an exact fit; just get it

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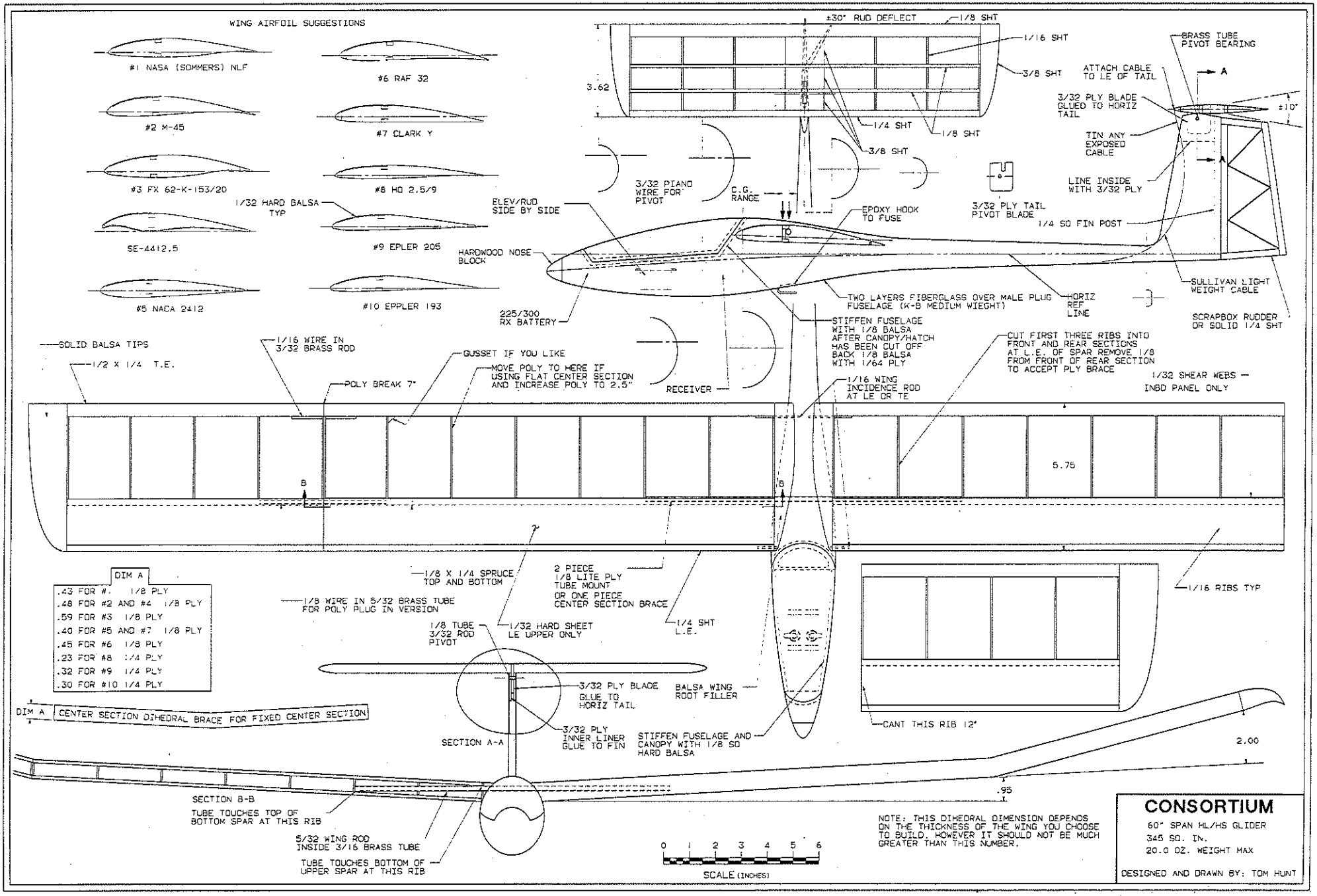
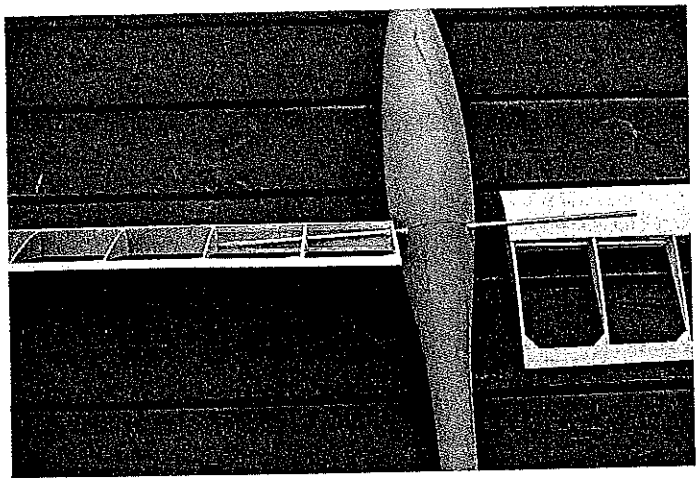
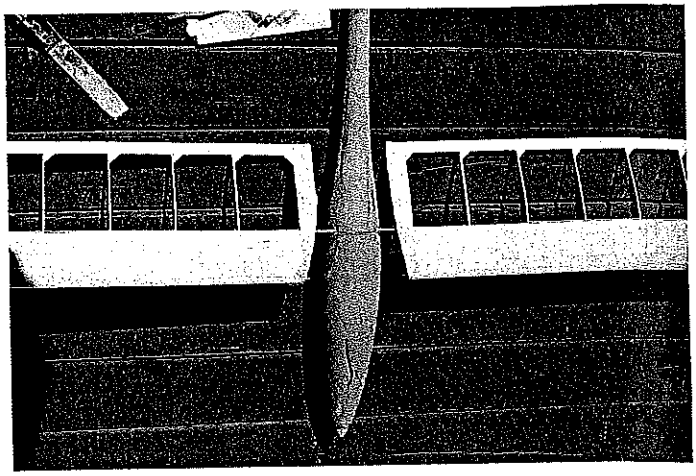
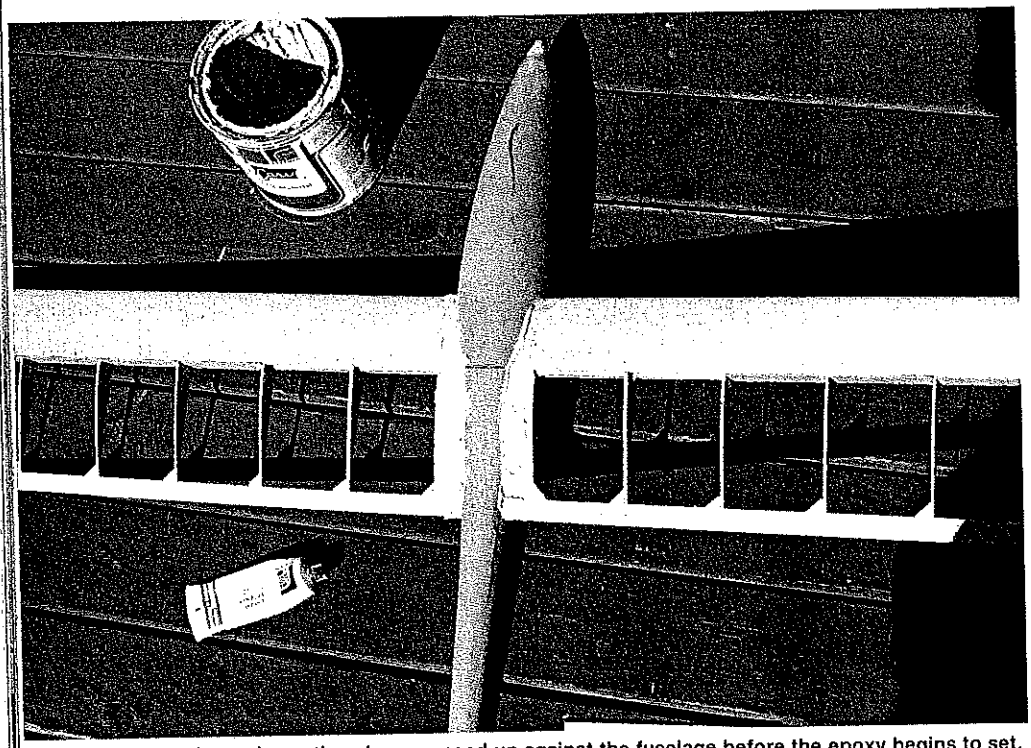


Full-Size Plans Available . . . See Page 196

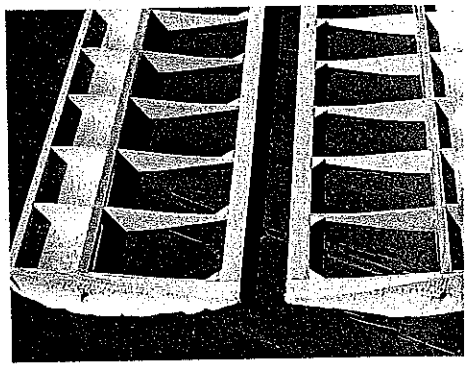




Left: This shot of the plug-in wings shows the aluminum tubing epoxied in place between the spars in the first two bays of the left wing. Wedging the tube between the spars assures correct dihedral. Right: A mixture of epoxy and microballoons is applied over crudely carved root blocks. The fuselage is thoroughly waxed in the contact area prior to pressing the wings against the sides to create a perfect mating surface.



This photo shows the wings pressed up against the fuselage before the epoxy begins to set. You must make final incidence and all other alignment adjustments before the epoxy hardens.



The wings are separated from the fuselage after the epoxy is completely cured, exposing the formed mating surface. Sand the root block to remove excess material so that it fairs smoothly with the wing's airfoil.

close as possible.

Wax the outside of the fuselage in the area of the airfoil. Apply a mixture of epoxy and microballoons to the roughly carved block. Insert the wing onto the wing rod, and push it against the waxed fuselage. When the epoxy is thoroughly dry, remove the wing and sand off the excess epoxy slurry.

Install the radio gear using the positions shown on the plan as a guide. The cable attachment to the leading edge of the stabilator can be as simple as a small piece of brass tubing squashed flat and soldered to the end of the cable. Drill a hole to the size of a small nail (brad) through the flattened brass tube. Insert the nail through the tube and into the leading edge block of the tail. Should the hole in the balsa tail become sloppy, simply remove the nail and wet the hole with thin CyA glue. This will close the hole slightly to regain a tight fit.

After epoxying a 1/16 wire tow hook in place, you're ready to paint the fuselage. To minimize weight—remember, paint is *heavy!*—use only a light primer coat and choose a dark color, which will cover it in one or two coats.

Assemble the rudder to the fin using the method described earlier.

Balancing the aircraft should be done by moving the radio around, not by adding lead! The final balance point will be established by flight testing, but start with the center-of-gravity shown on the plans regardless of what airfoil you chose.

Flying. Try to find a helper to make the first few hand launches. That way, if something should be out of trim, you can be on the sticks right away. I must admit that the lack of a finger hole makes it difficult to hand launch this Glider forcefully. But by grabbing it just forward of the wing leading edge and using a javelin-type toss, I'm able to get it up to 50-75 ft. consistently.

Consortium is a very reliable performer off a small high-start or towline. In fact my longest flights (in excess of 45 min.) have been of this sort rather than hand launches (I blame the environment, not the airplane). Because of the model's low weight, short, powerful (5/16 tubing or larger) ballfield-type high-starts are not recommended—they act more like slingshots than high-starts. The airplane doesn't weigh enough to keep the parachute closed, and premature release is almost inevitable.

If the parachute is removed and replaced with a streamer, the airplane has a tendency to overfly the launch ring when the rubber is about half expended. The best type of high-start for this model is one made with 35-50 ft. of 1/4-in.-dia. rubber and whatever length of string your field dimensions will permit. I consistently get 200-ft.-altitude launches on windless days with 50 ft. of rubber and 200 ft. of line. And with only the slightest breeze, I can get over the stake while still stretching the rubber slightly.

Using the M-45 propeller airfoil, Consortium has a good speed range. The stall is predictable, and the model requires only

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found that it didn't fly well at all. The reason? Extra damping and quick control response are needed to tame RC Helicopters, which are much more difficult to fly than their full-size counterparts. And flybarless RC Helicopters depend on a stiff main rotor head to improve the vehicle's pitch and roll damping and control power.

The four-bladed hingeless head shown in one of the pictures was made by stacking two Baron 30MX two-bladed hingeless heads. The result is similar to the full-size Westland Lynx rotor head. The steel flexbeam hub gives it comparable flap flexibility. The other type of hingeless head, the BO-105 made by MBB, acquires its flap flexibility through fiberglass blades. Wik Modelle also produces a BO-105 hingeless hub and blades. As to which of the heads is better, that depends on whether you're talking to the Germans or the British.

My original-design bearingless rotor head uses flexbeam to provide the bending and torsion. It's machined from a special petroleum-based synthetic called Torlon. Manufactured by Amoco Petroleum Products, Torlon has all the properties of steel but costs about 100 times more. A 2-ft.-sq. piece sells for around $700. The aluminum post that can be added on top of the head to support a flybar is shown in one of the pictures.

My friend Joe Medrano, an expert sheet metalist, machined a number of the rotor heads shown in the photos. He even stamped his own Cobra side frames and welded his rear exhaust muffler. Thank you, Joe!

Next month's sequel will present the ⅛-scale four-bladed bearingless model rotor tested at the Glenn L. Martin wind tunnel at the University of Maryland. Along with the million-dollar tunnel, you'll see some exotic blades, swashplates, miniature hydraulic servo actuators, and control systems.

Consortium/Hunt

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slight *down* elevator to pick up and hold some speed while chasing the next thermal.

Ron Farkas built the model with an Eppler 201 airfoil. With its higher weight (3 oz. heavier) and thinner wing, his version flies just as well but at a higher speed. Others made with Clark Y, RAF 32, and Eppler 193 airfoils were scheduled to be flown soon after this article was submitted.

As a builder, I get bored very easily with the same old construction techniques, the same old low-wing sport and high-wing trainer airplanes. I'm in this hobby to learn as well as to have fun, and I certainly did both in designing the Consortium. I hope that reading about the project has acquainted you with some new techniques in building and designing model airplanes.

If you've got the urge to try something different—and a little time to spend in the workshop—this classy-looking, good-performing Sailplane will give you a lot of fun at any small flying field.

RC Soaring/Blakeslee

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the museum, with its displays and programs, will knock you out! Make the effort to join—or visit and join. I guarantee you'll not regret either. The address: National Soaring Museum, RD#3, Harris Hill, Elmira, NY 14903."

Thanks to Cal Weiss for taking the time to tell us about the NSM. I'm sure many model Glider fliers appreciate learning about it and will plan to stop there when they are in the area. In his cover letter Cal mentioned that the photos were provided by Shirley Sliwa, Director of the NSM. Cal also passed along this personal information:

"I am retired from the NASA Lewis Research Center, Cleveland, where for the last 22 of my 32 years with them I directed the work of the Educational Services Office. Several of the notable modelers there were Chet Lanzo, Warren Plohr, and the Reich brothers. I see Warren on occasion at our club field—I am a member of the American Airlines Model Club. Chet, of course just recently passed away. Way back, I was a member of the Board of the NAR along with John Worth. This kind of establishes that I've been in the field for a bit of time.

"The fact that I know a few of the real pros (I should add that I fly almost every week with Joe Elgin, designer of the Playboy) makes me no better a flier of my models. I have been active with RC Gliders for only five years and am having a ball! I managed a 1 hr., 15 min. flight with an old Windrifter this summer. The Lord had more to do with it than I did. He kept pulling it up, and I kept trying to keep it in sight at a reasonable altitude.

"I'm interested in all areas of aviation, but at the top is soaring. It has always fascinated me just because of the beauty. This carries over into modeling. The Scale look and beauty of the RC Sailplane is so much like the real thing. If there is anything I don't like, it's the beautiful Scale model Cub that flies at what appears to be supersonic speeds. My wife also loves sailplanes, and together we have attended several Nationals and regional contests as spectators. In fact, our last visit to the museum and the dedication was at the same time as the Region 3 contest at Harris Hill.

"I guess, then, it is only natural that I believe other Sailplane modelers are also interested in the full-size ones and the museum. It's for this reason that I put the article together. Perhaps some modelers within 'reach' of the museum will make the effort to visit. For those who live too far away, perhaps the article will be of interest, and they may wish to become members. In any event, I am turned on and want to pass the information on to others."

The International Postal Challenge: Old-time readers of my column will remember previous reports by Kale Harden (Palm Harbor, FL) on the IPC. The idea behind a postal contest is for one club in each of several countries to fly the same contest on the same day and then compare results by mail. For sure, it's an interesting fun-fly concept and a way to "meet" Sailplaners from other countries.

Kale, of the Pelicans Club in St. Pete, sent a re-

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