REVIEW SALSA XL

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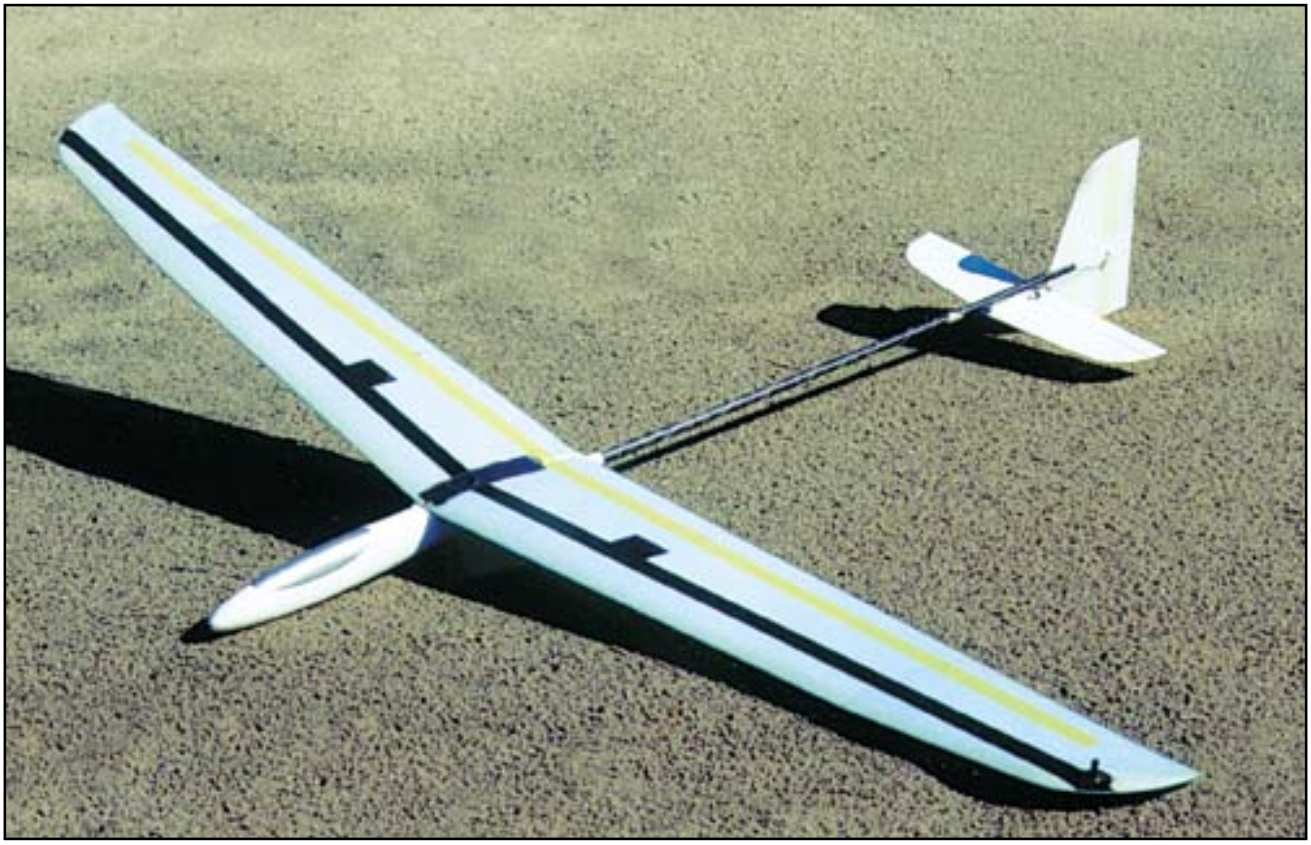
Product Review

SALSA XL
Hobby Club

By
Mike Lee



SPECIFICATIONS

SALSA XL

Aircraft Type
HLG ARF

Mfg. By
Horejsi Models

Dist. By
Hobby Club
P.O. Box 6004
San Clemente, CA 92674
Ph. (949) 425-1362; Fax (949) 349-0829
hobbyclub@hobbyclub.com

Mfg. Sug. Retail Price
$199.95

Available From
Direct from Hobby Club
Wingspan
59 Inches

Wing Chord
5.8 Inches (Avg.)

Total Wing Area
347 Sq. In.

Fuselage Length
45.5 Inches

Stabilizer Span
12.5 Inches

Total Stab Area
40.6 Sq. In.

Mfg. Rec. Engine
N/A

Rec. Fuel Tank Size
N/A

Rec. No. of Channels
4

Rec. Control Functions
Rud., Elev., Ail., Coupled Ail./Rud., Flaperons

Basic Materials Used In Construction
Fuselage
Fiberglass and Carbon Fiber

Wing
Foam with Fiberglass Skin
and C/F Reinforcement

Tail Surfaces
Balsa

Building Instructions on Plan Sheets
No

Instruction Manual
Yes (6 pages)

Const. Photos

No

RCM PROTOTYPE

Radio Used
Futaba 8-UAPS, 4 Servos

Engine Used
N/A

Fuel Tank Used
N/A

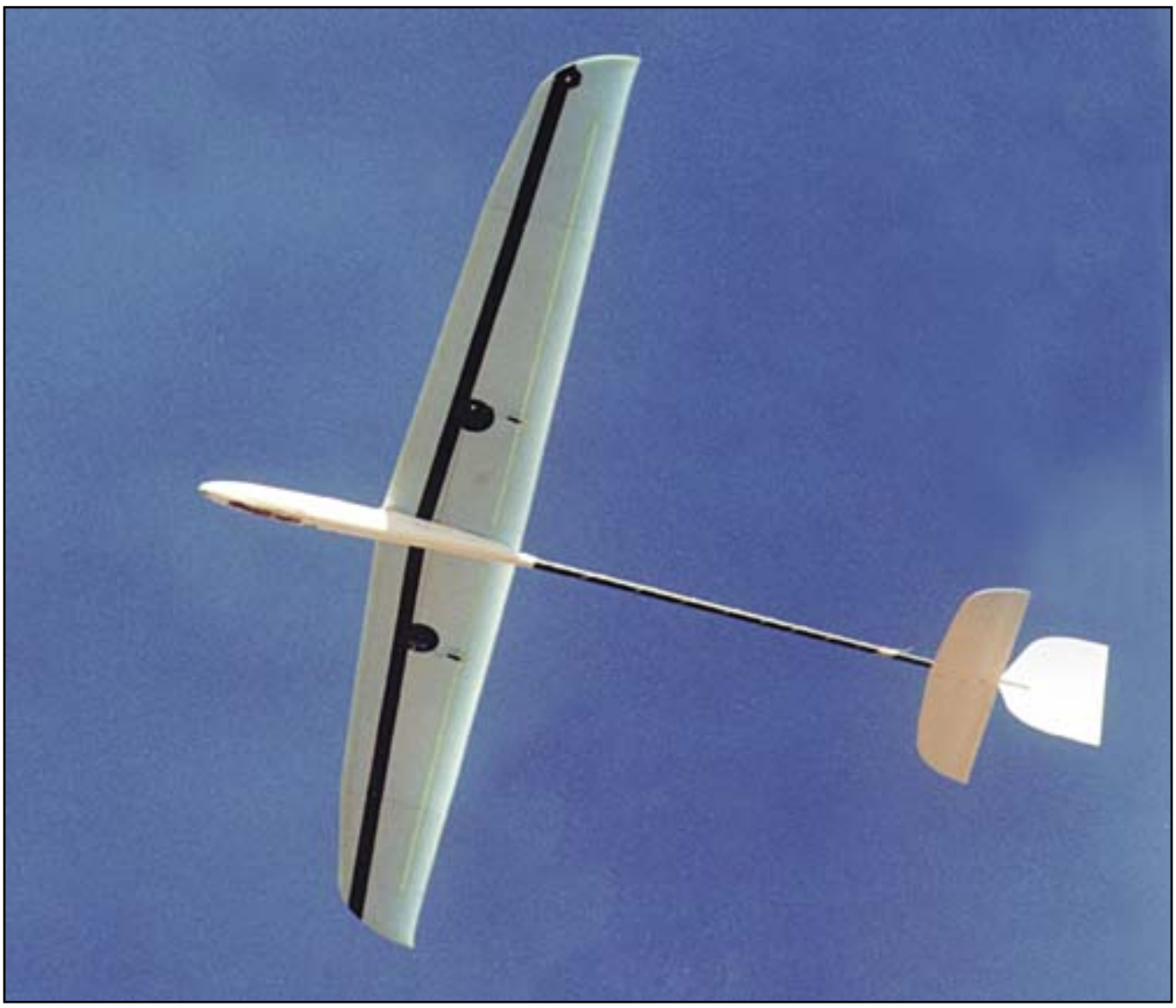
Weight, Ready to Fly
10.8 Oz.

Wing Loading
4.4 Oz./Sq. Ft.

SUMMARY

WE LIKED THE:
Good quality, good flight characteristics.

WE DIDN'T LIKE THE:
Short instructions, poor hatch retainer design.

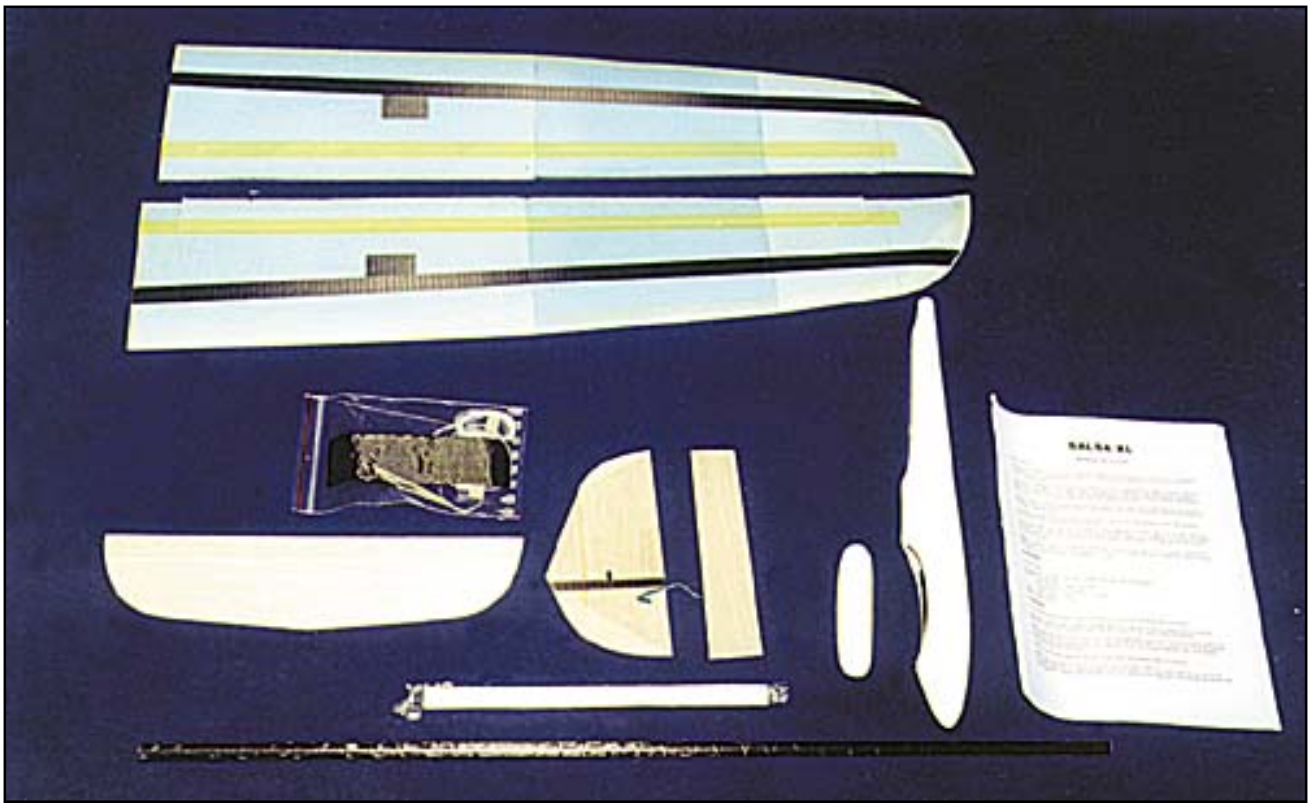


One of the most challenging and entertaining methods of flight has to be the art of flying hand launch gliders. These small models are very lightweight but strong and are dependent strictly upon the ability of the pilot to launch them into the air by hand, and then for the pilot to successfully find a thermal at low level and take it out. The personal rewards are astounding, and I have to say that this is the primary reason why many sailplane pilots take up flying a hand launch model. The modern techniques of production line manufacturing is not applicable to this type of model, so it is not surprising to find that most of these models are sold for around $300.00. The subject of our review is a very well made model with a selling price of 2/3rds this amount, yet features a composite bagged wing, fiberglass fuselage, composite tail boom, and more. Enter the Salsa XL from Hobby Club.

The Salsa XL is the successor to the built-up model of two years ago known as the Salsa. The original Salsa featured a built-up wing and tail section, coupled with a fiberglass pod and carbon fiber/fiberglass boom. It was very economical and a great model for sport, competition and learning to throw discus style. Following on the heels of the Salsa comes the Salsa XL, a model made for competition, yet easily handled by the sporting pilot and still at an economical price. The new XL version has the same pod and boom fuselage style, but this time, the wing is made from a bagged foam with fiberglass skin wing, reinforced by carbon cap spars, and sheet balsa tail feathers. And it does not require the use of a gyro! (Many modern discus launch models use a gyro for stability on launch.) The result is a model that can

be launched very hard, has smooth flight characteristics and retails for $200.00. It is a basic ARF type model, so let's jump right into the assembly work.

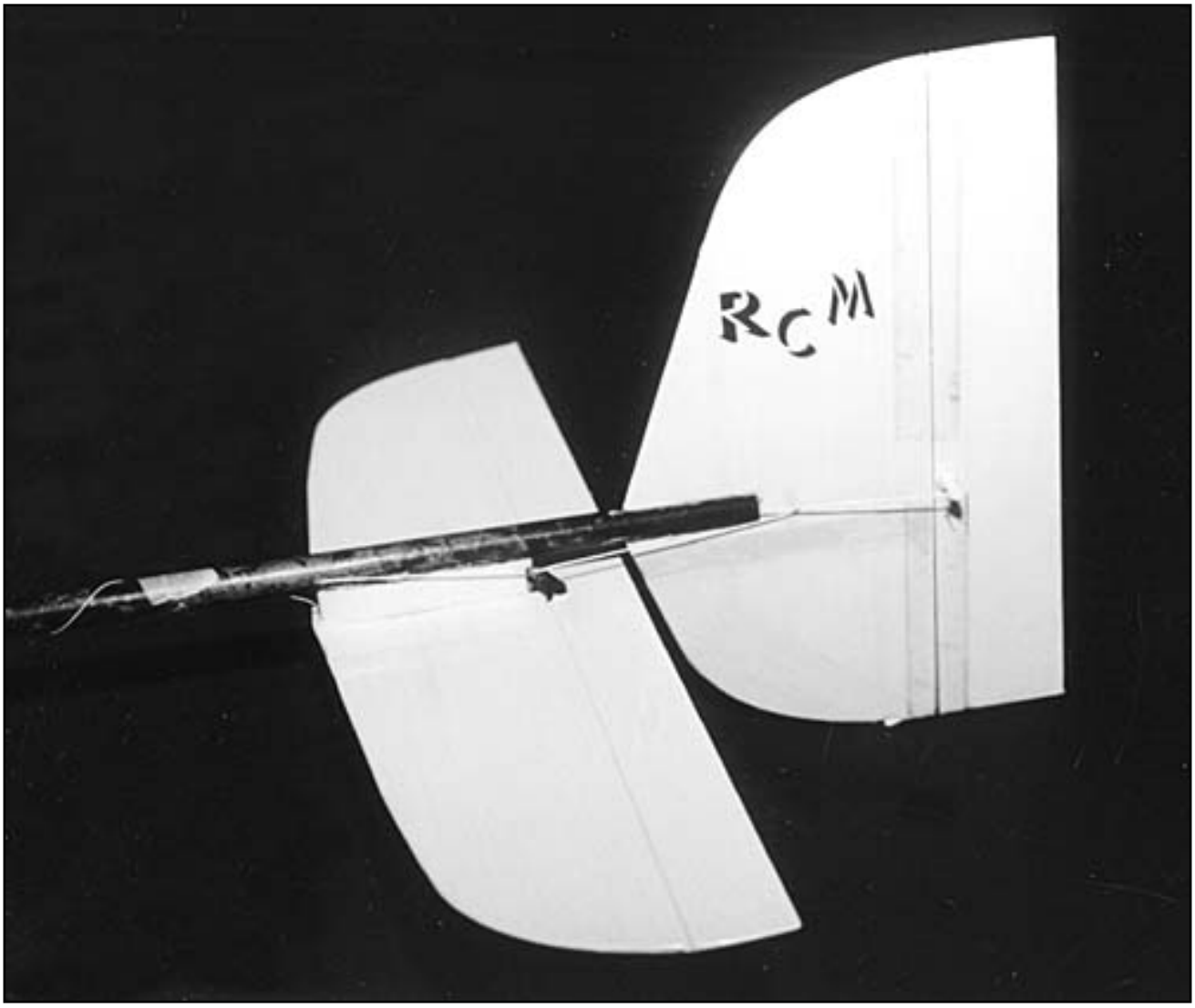
Inside the box we find all components carefully wrapped and protected from the delivery man. The bagged wings are immaculate, and I think the Europeans have figured out what the Americans have not; how to make a bagged wing that doesn't suffer from trailing edge warp. Most of the time, when the TE is sharp, like in these models, you need to keep the wings in their foam wing beds to keep them from warping. The Salsa comes with no wing core beds at all, and yet the TE is absolutely straight! Bravo! (And they can let me know their secret anytime.) There is not much inside the box, as this model is an ARF. A small bag of hardware is present, as is a 6-page instruction pamphlet with a one-page drawing. To finish the Salsa XL, you will need four micro size servos, a micro receiver, a mini to micro size battery pack, and the usual hand tools and adhesives.



Assembly:

We begin assembly work with the wing, which comes in two halves and is simply butt glued together at center. There is a center section rib on each wing half, and the dihedral angle is already sanded to the correct angle for you. Simply mate the wing halves with 5-minute glue and allow to set. While the adhesive dries, you may notice the wing servo bays, which are backed by a carbon fiber skin. This is very thoughtful and useful. Servo wire runs are present, but are only large enough for the wire and not a connector. Once the wing sections are joined, you will need to reinforce the wing joint with the kit-supplied carbon fiber cloth. Don't use all of this as you will need some to make the throwing peg reinforcement. The drawings show you how. I used slow set epoxy to apply the cloth to the center section and allowed this to cure overnight. Once cured, you may install servos and run the wires as desired.

The hard part comes with the fuselage. This has to do with mounting the tail boom. Follow the instructions and the drawing carefully to achieve the proper alignment before anything else. This is critical. Once you have that set, you will glue the boom in place permanently with epoxy. It's a bit tricky to make the fit at first but take your time and you will not be disappointed. The boom is also very long, even for an HLG. There is a reason for this, so stay tuned. Once the boom is mounted, you can then mount the tail feathers to the back of the boom.



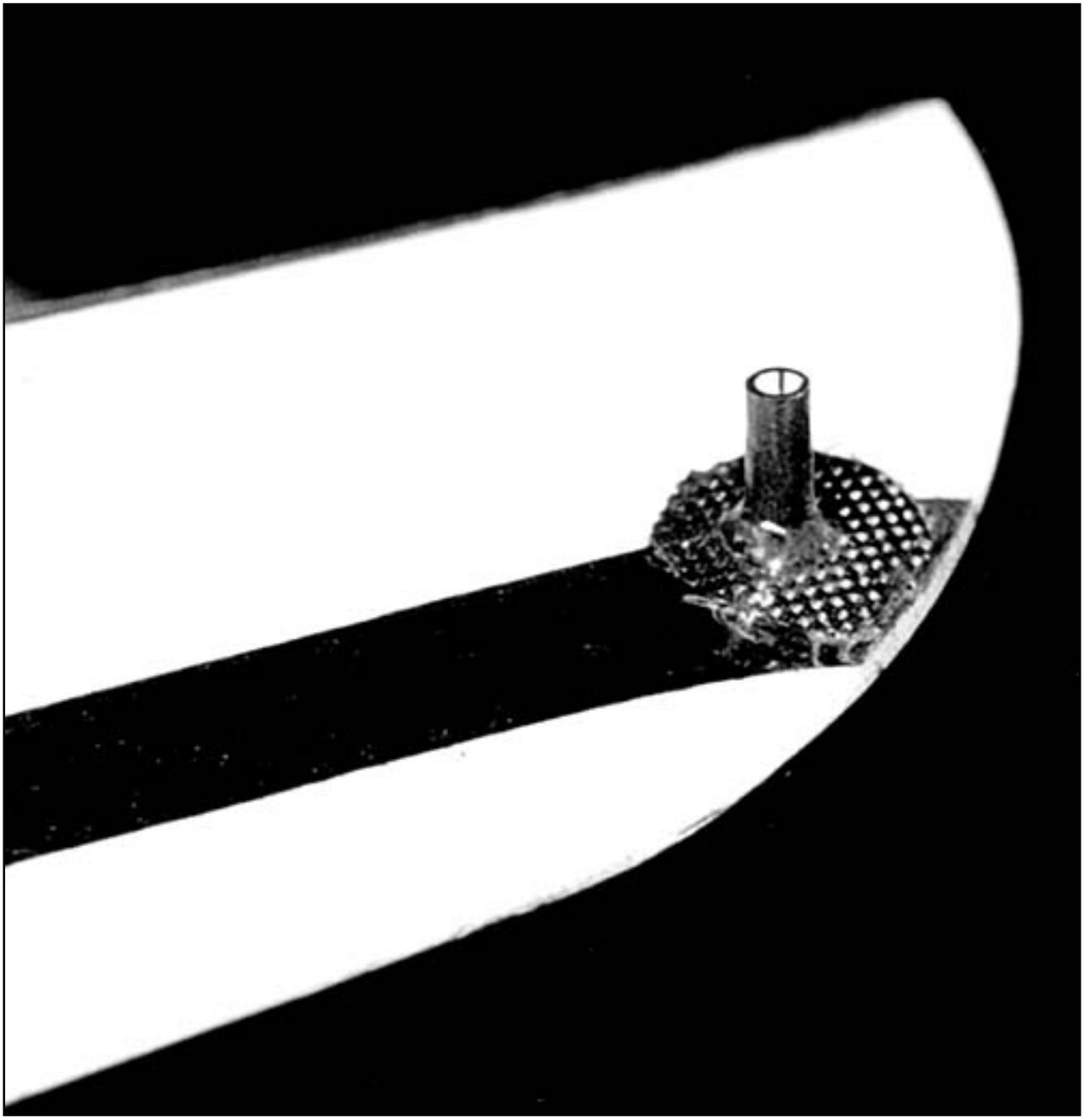
Tail section of the Salsa XL showing the large vertical stab and pull-pull string cables. With this large vertical stab, the Salsa XL does not require a gyro.

The tail feathers are made from sheet balsa, with the vertical stab reinforced with strips of carbon fiber. There is a tremendous amount of stress inflicted on the tail feathers, and so it makes sense that the tail is reinforced. Note that the control surfaces of the rudder and elevator are hinged now, before the stabs are mounted. First mount the horizontal stab to the stabilizer pylon with CA type glue. I used Dave Patrick MAX Industrial grade CA adhesive all around on this model. It works very well, indeed. Once the glue is cured, you need to sand the top of the pylon gently to match the rounded contour of the tail boom. This is really easy, as you simply wrap some fine sandpaper around the boom and then sand the pylon against the boom. The result will be a perfectly contoured joint to the pylon. Once that is done, you may

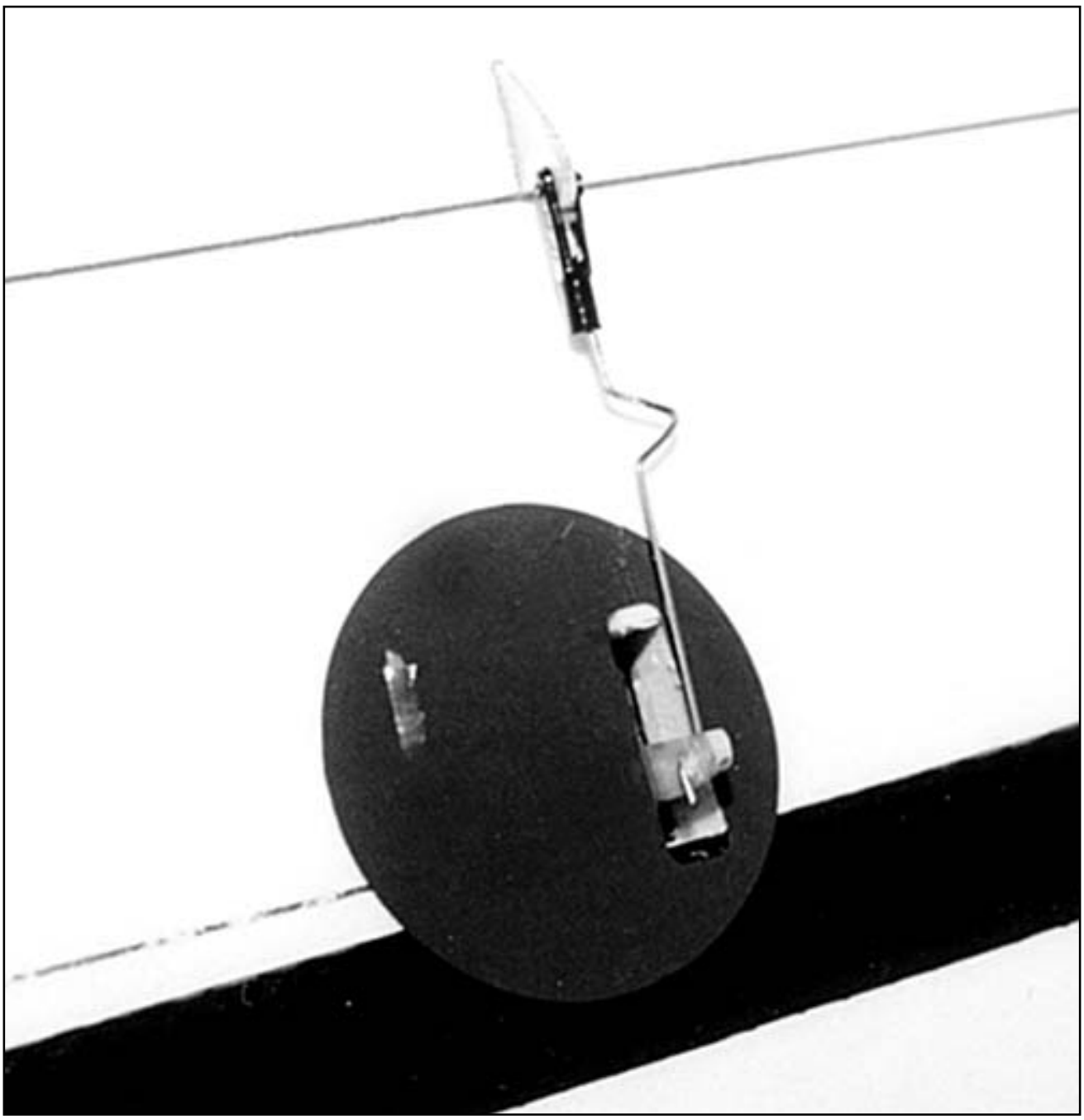
mount the stab with pylon to the boom. I mounted the wing first to the fuselage, turned it upside down on the bench, and then did an alignment of the stab to the wing. Once I was satisfied with the alignment, I glued the pylon with stab to the tail boom.

On the top of the wing, the dark square area is the carbon fiber cloth reinforcement of the servo bay. Note also the light colored line along the aileron hinge line. This is the live Kevlar(tm) hinge.

Next is the vertical stab and rudder. You must slot the rear of the tail boom for the vertical stab to be mounted. Again, I mounted the wing and flipped the model upside down on the bench. Take your time with a Moto-Tool, and make a narrow slot to fit the vertical stab. If the stab does not align well on this first pass, you can open up the slot just slightly to one side to correct the alignment. Once satisfied with the fit, you may glue the vertical stab in place. The vertical stab area must also be reinforced on the boom to make this a very strong joint. We did this by making a couple of fast wraps around the boom with some Kevlar (tm) thread and CA adhesive.

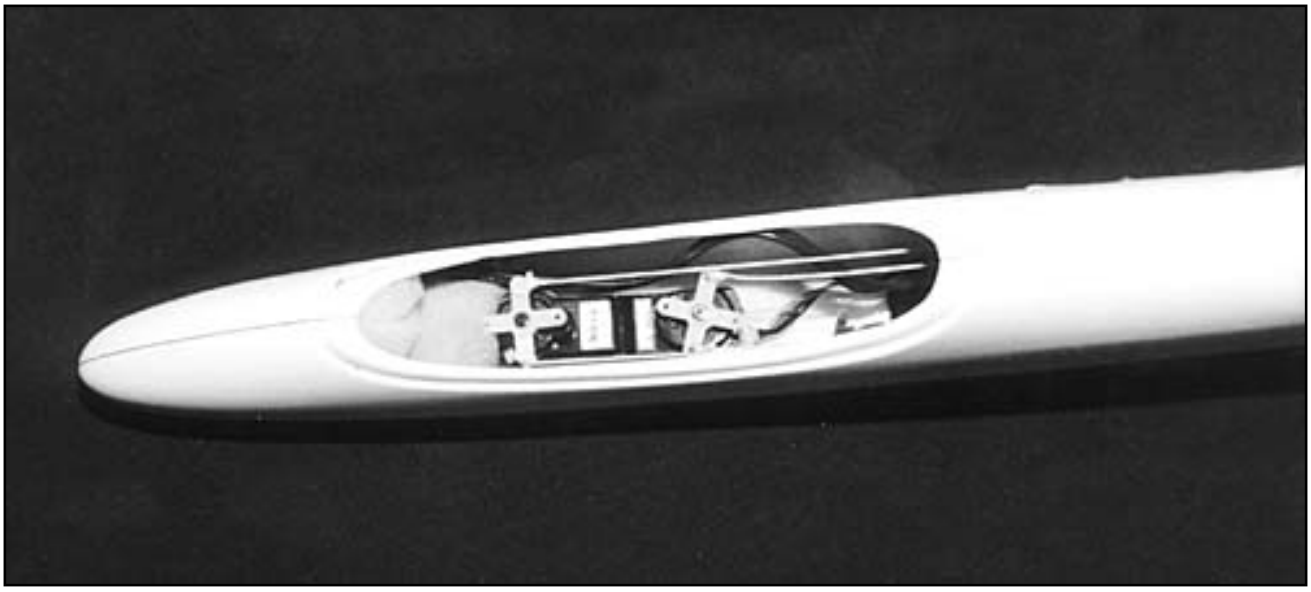


Going back to the wing, you need to decide which wingtip you will use to launch the model. Once you decide, you must mount the tip launch peg into the wing and reinforce it with the C/F cloth from the kit. I used fast set epoxy for this and plastic tape to make a self-feathering joint of the cloth. Once the epoxy and cloth has set, drill through the spot with a drill size appropriate to the size of the peg, and then insert the peg. Once satisfied with the fit, glue the peg in place with fast set epoxy.



The aileron servos are mounted into wing bays cut into the outer panels. Note the bend in the pushrod used to adjust the pushrod length.

From here, it's time to install the radio gear. I used Hitec HS-50 servos at all points of the radio installation, as they are the lightest and most dependable sub-micro servos I've tried. Two servos reside in the nose of the fuselage for rudder and elevator, while two more are in the wing to handle the ailerons/flaperons. There are wing servo bays already cut out for you, and the HS-50's are a friction fit into the bays. Inside the fuselage, the instructions tell you to mount the servos using a plywood servo tray. No servo tray is provided, meaning you're on your own to make one. I definitely recommend the use of the tray, as this adds a lot of strength to the fuselage pod. On the wings you will be required to extend the wires to the servos, and so you may wish to seek the help of an experienced modeler who knows the art of soldering. I modified the wires to utilize a single Dean's 4-pin connector for both servos. This allows me to make a single connection when joining the wing to the fuselage.



Inside the pod fuselage, are rudder and elevator servos, both Hitec HS-50 units. The battery will sit in the nose while the receiver goes just behind the servos.

The hardware kit provides control horns, which are epoxy glued into the control surfaces. The hardware bag has clevises to connect to the control horns, but no pushrod material. I elected to use some .030 piano wire as my aileron pushrods and CA glued the clevises to the rod. Note that this left me dependent on the ability of my radio system to allow me to make the final adjustments for trim settings on the control linkages.

At the rear control surfaces, we find Dyneema string pull-pull lines for the control surface hook-up. The rudder is a forward pull-pull arrangement, but any adjustments are made using only the lines being tied to the servo. On the elevator, the primary line comes from the servo first to the elevator control horn, and then back through the vertical stab. Once it runs through the vertical stab, it returns to the elevator servo, running inside the tail boom. Pull-pull strings are definitely the lightest possible method of bringing control to the surfaces at the rear, but keeping them tight means that there is a bit more maintenance required for their use.

The last item to finish is the canopy cover. This is to be held in place with a piano wire retainer glued to the underside of the canopy. While this is a common and convenient method of keeping a canopy in place, I prefer tape to hold mine down, as the violent nature of discus launching dictates that you will need this type of security. I installed a 370 mAh NiMH battery pack into the nose of our Salsa, followed by an FMA M-5 micro receiver and behind that the HS-50 servos. To achieve proper balance, I needed only an additional 1/4 oz. of weight in the nose. Finally, I installed the wing throwing peg into the left wingtip to accommodate my right-hand throwing style. Time to toss her off.

Flying:

Our review model weighed in at 10.8 oz., ready to go, which if spread over the wing area of 347 squares, makes for wing loading of about 4.4 oz./sq. ft. That's pretty light. Our first toss was a simple

javelin toss to make sure the model was in good trim and balance. All control surfaces were at neutral and the Salsa XL flew very well without the need for trim. Next, I gave the model a gentle discus throw. This resulted in a launch height of about 30 feet, and no problems. Our model showed just a hint of climb during the launch, which is what I prefer. Once we landed the Salsa, I put the full force of my body behind the launch. The model reached about 60 feet when I pushed her over into the glide, getting there with a mild self-climbing attitude. Mind you that most modern discus launch models in the United States routinely use a gyro for launch stability assistance. Our Salsa was designed to fly without one, and in watching this model fly, I have to agree that it does not need one at all. Remember that comment about having a long tail boom and huge vertical stab? This is where those come into play. The launches have just a touch of rudder arc, but no tail wagging as it leaves the launching hand.

Once stabilized in the glide mode, the Salsa does a good job of covering air space. It behaves very smoothly, and this is certainly due to the very long tail boom. In fact, the elevator is quite forgiving, allowing some sloppy inputs to become un-noticed. By the same token, the Salsa cannot be hauled around really quickly. In contest work, you wouldn't want to haul around hard anyway, as this is not the most efficient way to fly. Aileron response is very nice, and we did have to mix the rudder with the ailerons for smoothly coordinated turns. I also programmed the Futaba 8-UAPS radio to allow flaperons, plus reflex and camber. The Salsa responds well to reflex and camber, but because the ailerons are top hinge mounted, the amount of deflection possible for flaps is insufficient for use as airbrake devices. Nonetheless, the Salsa slows down enough for making controlled approaches and contest style catch and throws.

As predicted, the canopy did not stay in place using the kit-recommended piano wire retainer. Hard launches will cause the canopy to fly off, and so we reverted back to tape to hold it on. Thermalling the Salsa takes a bit more practice, as the wing sports a Selig 6063 airfoil. This airfoil doesn't jump around much when it encounters lift, compared to other airfoils. But once you get used to this, you will find yourself routinely spotting signs of lift and taking the model out for longer flights.

About the only thing I would recommend in this model has to do with servos within the fuselage. If you decide to mount the servos without the use of a servo tray, as many contest pilots do, you must take the precaution of reinforcing the sides of the fuselage to prevent compression damage during launch. This is fairly easy to do, as you need only to epoxy a layer of 2 oz. cloth to the inside of the fuselage from the wing saddle to the front of the canopy opening along the sides. Otherwise, use the servo tray. Overall, the Salsa XL makes a very good sport and competition hand launch model. It seems to do everything right and has no bad habits. It's a great way to enjoy discus launch models.

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