



HSS is the oldest AMA chartered R/C Soaring Club in the USA
 Founded 1964

SEPTEMBER 2006

VOLUME 43

Hello, from Tom Copp HSS Contest coordinator

Our contest was a success and a lot of fun, we didn't get a lot of pilots but next month will change that I am sure; we had 6 RES and only a few open ships so I decided to fly RES in 2 groups of 3 man on man style. Don't worry no one was left out as I was the only one with an open and no RES ship but needed to get the event underway.

The conditions were overcast and cool for the first few rounds and the winning duration was about 2:15 then thermals started to pop and pilots started to max out the flight 5:00 times. Man on man is more fun and much more challenging as one pilot found out. He was the highest on the field and thermaling fine on the left side when his two opponents were low and on the right side but in lift. I suggested the he fly on over to cover them but he stayed with his thermal. About 40 seconds later his thermal left and the other two were working the lift downwind and he couldn't reach them so he landed short while the others shot 5:00 and landings points! So it's not just about your little bubble it's about winning the round. We flew 5 rounds and had 1 throw out. In the last round Tom B used his Gentle Lady and was up wind while Mark B and Dan F were downwind fighting it out. No one was thinking about Tom upwind, so as soon as Dan wasn't going to make it Mark started coming home only to find Tom at 399' and looking good over the slope! The round went the full 5:00 and the only difference was the landing score. Mark won the round but not without a lot of extra work when he thought it was in the bag!

There are lots of things to think about and it's new for everyone so now is the time to join in. Jim Hansen has a good scoring program that will make up the rounds by groups or classes and keep track of everything. What we might do is progress to 2 flights possible per round (more like F3J) so if you land short on time you can re-launch and save some score. Right now we have 25' of rubber and 75' of line. This is about right for lighter F3J open and RES ships. I will probably let guys bring there own zip start if it fits the 25/75 requirements and is not a super advantage. As the contest matures we will have a rubber requirement, what we want is to get all the models to the same height using good launch skills. I think El Dorado should try this one! I had comments that this was lots more fun than the typical launch and fall for 7:00 and the sidebar is this will improve your skills!

Tom Copp
 HSS Contest coordinator



Harbor Soaring Society General Meeting
Thursday, September 7th at 6:00 PM

Location: Newport Sea Base

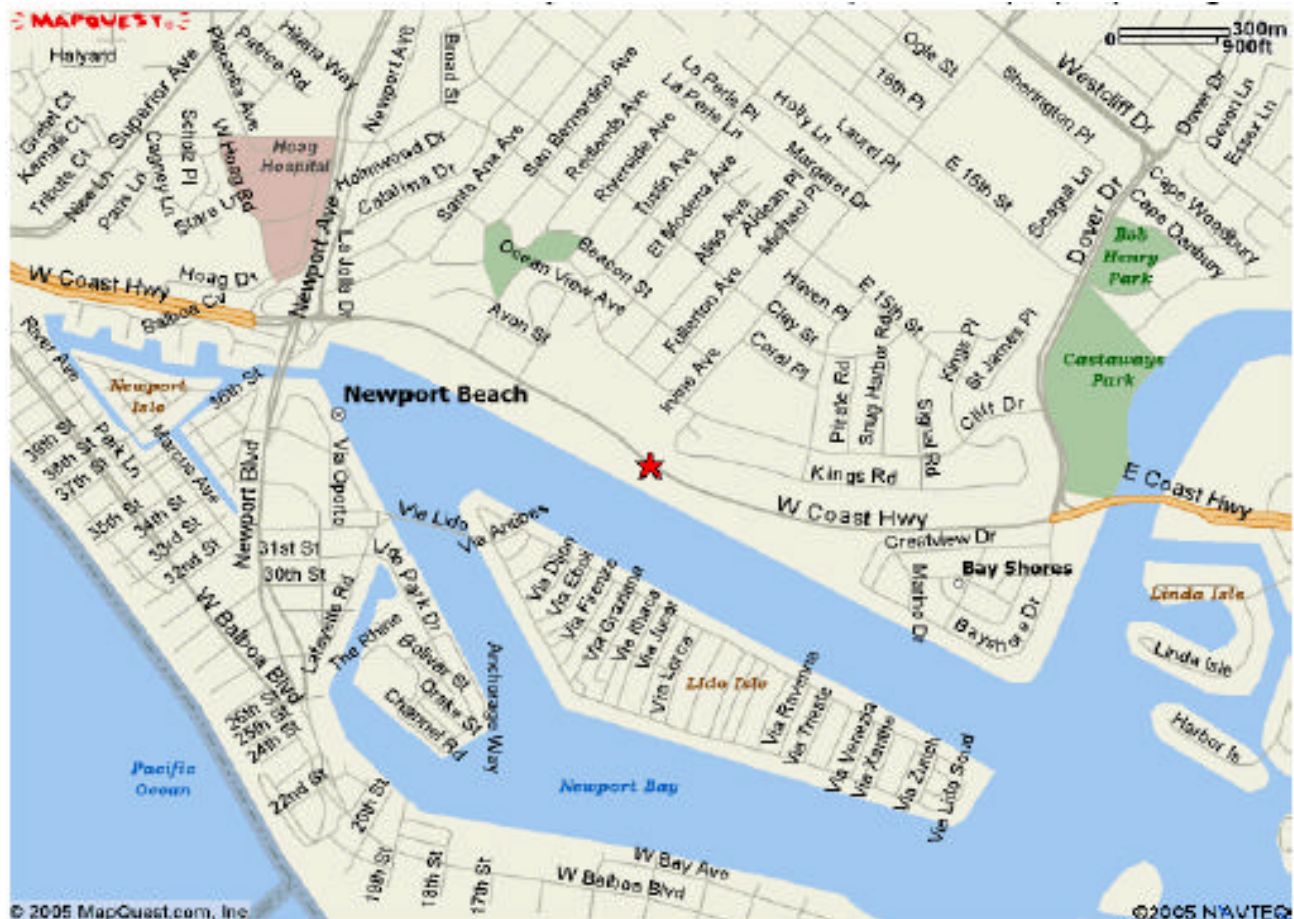
1931 West Coast Highway, Newport Beach, CA 92663

Facility Phone: 949-642-5031

Further Information: John Anderson, HSS General Director, 949-723-1556

Directions:

Take anything to Coast Highway in Newport Beach. Go East on Coast Highway several blocks East of Newport Blvd. It is adjacent to the UC Irvine/Orange Coast College sailing facility. There is a parking lot in front of the building, and an additional public parking lot a short block up from the corner of Coast Highway and Tustin Avenue (City of Newport not City of Tustin). Some metered parking is also available on Coast Highway. Warning, do not park in business lots such as Ardels or Taco Bell. They have observers to prevent improper parking.



General Meeting Minutes for Thursday August 3rd, 2006

Costa Mesa matters. The HSS Board has continued to meet and work with the City to complete several items including the Use Agreement amendment, new City Ordinance and associated Field Rules. We anticipate that the final package will be reviewed by the Park and Recreation Commission in late September; will be adopted by the City Council in October and will become effective in shortly thereafter.

Prospective Air Show. John Anderson, General Director has been exploring with the City and Costa Mesa Historical Society, the idea of an "Air Show" sometime next year. We will be setting up a committee to carry this forward. You are welcome to participate in the planning!

We're going to be on TV. Tom Burgess, Vice President, has been working with the City video folks to create a Channel 24 feature on the HSS and our flying activities at Fairview Park. Stay tuned.

Field Safety. David Whittington, Safety Officer led a discussion about safety in general and ideas for improvement related to our recent Scale Fun Fly. Ideas include moving the spectator area more to the north...for more separation from the takeoff area. Also noted was the need to find and display the HSS signs/banners.

Plane Rap Newsletter. Fred Hesse provided an e-mail "how-to prepare the newsletter". This was discussed and will be made available to our new Plane Rap Editor, Mark
Fred's memo also included a list of several missing Plane Rap archives. It was suggested that "we" contact some of the more "senior" members including Chuck Hollinger, Frank Chester, and Dick Panzer. We also discussed Walt's suggestion for a "master calendar" which covered HSS events as well as other major meets/events for reference.

A big B-17. Walt Cloer, President, presented his awesome 10' span, 47 pound, e-powered B-17; and provided a historic profile of the real "909" which survived 127 wartime missions. Walt also shared with us the details of his lengthy construction process and the participation of the plane in various recent local parades.

How high? Dennis Anderson presented his application of the new Wind Shadow LED-based recording altimeter and Jim Hanson, Treasurer, presented various types of airborne electronic altimeters. The Eagle Tree unit which provides a downlink for altitude, speed and other data is presently mounted in Jim's 6-foot Telemaster for testing, evaluation, and application...to help us improve our ability to estimate and monitor the 400' altitude maximum.

Weather Site

This web site was sent to me by one of our fellow Model flyers it has some good local weather info, and it is up to date. Check it out.

(http://www.met.utah.edu/cgi-bin/droman/meso_base.cgi?stn=C1521&unit=0&time=LOCAL)



HSS Name Badges

If your name is on this list I have a HSS NAME badge you ordered. If you want your name badge come out to the flying field or see me at the club meeting on the first Thursday of the month at the Sea Base. If you have paid for a name badge and your name is not on this list contact me at 949-294-8365.

Sincerely Jim Hanson Treasurer.

New Club T-Shirts

We received a note from Dave Ng who is a member interested in getting an HSS T-Shirt. Sorry Dave, but we don't have pictures of the shirts. However, the description given below has been supplemented with more detail. Your great idea of displaying them on the web site and providing mail order service is being forwarded to our webmaster.

They are white (only) and have a ten inch diameter club logo on the back in full color (as shown on the masthead of this newsletter), and a small 5 inch sailplane in red with black "HSS" letters on the front. These high quality shirts are priced as follows: T-Shirt, no pocket, \$5; T-Shirt with pocket, \$7; Golf shirt with a polo collar and a front pocket, \$13. These are available to all members. Contact Karl Hawley (Phone 949-574-9379).

Coming Events For 2006 (Updated with SC-2 schedule)

Sunday	September 3	Ninth HSS monthly club thermal duration competitions at Fairview Park.
Thursday	September 7	HSS monthly meeting, 7:30 PM, at the Newport Sea Base, Steering Committee
		at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	September 24	Sixth SC-2 Thermal Duration Competition hosted by Inland Soaring Society (ISS). See web site for location.
Sunday	October 1	Tenth HSS monthly club thermal duration competitions at Fairview Park.
Thursday	October 5	HSS monthly meeting, 7:30 PM, at the Newport Sea Base, Steering Committee
		at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	October 22	Seventh SC-2 Thermal Duration Competition hosted by Torrey Pines Gulls. Held at TPG site in Poway.
Thursday	November 2	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee
		at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.
Sunday	November 5	Eleventh HSS monthly club thermal duration competitions at Fairview Park.
Sunday	December 3	Twelfth HSS monthly club thermal duration competitions at Fairview Park.
Thursday	December 7	HSS monthly meeting, 7:30 PM, at the Newport Sea Base. Steering Committee
		at 7:00 PM. Address is 1931 West Coast Highway, Newport Beach.

1hss.org Web Site

The 1hss.org web site is no longer being maintained. It will be linked to HarborSoaringSociety.org.



Visit From Costa Mesa TV

Brad Long from Costa Mesa TV came by the Fairview Park on August 12, 2006 to video tape and interview pilots that were flying on Saturday morning. Brad spent 2 hours with us taping some great shots of the different types of planes that were flying. Brad got some shots of electric planes, one of which was a 3D, and interviewed a pilot and some spectators. He also interviewed Karl and Ross and a couple of glider pilots as they were getting ready to launch from the winch.

Chris McKee was launching his glider from a high-start, which provided some great shots and was interviewed as well. Brad even tried his hand at flying a foamy glider of which he did a great loop!

Brad's show is loosely formatted and similar to the Huell Howser show "California Gold". It is designed to appear informal and spontaneous as he discovers anything that is of interest in the Costa Mesa area. The show is 30 minutes long and usually consists of 2 points of interest, devoting 15 minutes to each topic. Brad said that he thinks he got enough video from the flying site to make a 30 minute feature. The video will air on channel 24, "the Costa Mesa Channel", shown only in the Costa Mesa zip code, and will air at a future date. Brad has a web site http://costamesa.granicus.com/ViewPublisher.php?view_id=4#discovering on the Costa Mesa City web site, that contains past shows, and the video of the Harbor Soaring Society will be posted there when editing is completed.

Tom Burgess

WE NEED VOLUNTEERS FOR THE BOARD!

Club elections are coming up soon, and we need to inspire some people to get involved and participate in keeping the club going. As you know, 90% of the work is done by 2% of the club, and several are burned out to the point where they are losing interest in doing anything at all.

The HSS Board of Directors is the only interface with the flying activities at the park and the City of Costa Mesa. Without the HSS BOD, the city would probably shut down all flying activity. It is in the interest of everyone who flies at the park to keep the HSS Club going and represent our hobby for us. We can not neglect the efforts that the past board members have put into the club and flying activities and contests. As members of the club and even non-member flying enthusiast, we must show our thanks by stepping up to the plate and volunteer to support the club by being a Board Member or by supporting them in other ways, i.e. running contests, grounds maintenance, instructors, news letter articles, even by attending the monthly meetings.

CONVERTING RUBBER-POWERED PLANES

Here are some ramblings about I have learned and want to share about converting rubber-powered planes to electric powered R/C. I don't pretend to be an expert in motors, batteries, electronics, or even model aerodynamics. I am learning things daily from those who have more technical expertise. This information is meant for those who have some actual electric R/C experience and who want to convert stick and tissue models such as Guillows, Sterling, Comet, and others to electric R/C.

Important Generalities

1. Wishful thinking won't make it fly. If you read and heed the following, your chances of successfully building and flying a converted rubber kit should be quite good. For most of us, the challenge of redesigning and adapting a model intended primarily for display, and finally getting the thing to fly reasonably well can be a challenging and hopefully a satisfying experience. It is not very rewarding to spend a month or more of



obsessive planning, redesigning, adapting, building, covering, finishing, and fiddling only to splatter the thing after a nervous hand launch with no actual flight achieved. Seeing your re-creation make it into the air, smooth out after trimming the settings, and then land safely can really put you on cloud nine.

2. Conversion of any kit designed for rubber power to electric R/C is not a casual beginner's project; it is a real challenge. While a rubber kit may be relatively inexpensive, the amount of head-scratching and building effort to make the thing strong enough to withstand landings, without adding any unnecessary weight, can be a lot more than a model designed for electric flight.

3. The process of selecting the proper motor and gear drive or direct drive system, battery pack, and propeller for a particular model design with a given wing area, size, and weight is beyond the scope of this article. My advice is to get advice on what has worked for the same or similar designs from sources such as the E-Zone, local experts, and experience hobby supply personnel. You should always go for a motor, gear drive, prop, and battery pack combination that has more than adequate power for the wing area and total flying weight of your plane. Often, the best choice of number of cells, propeller, motor, and gear ratio makes the difference between a powered glide to the ground and a nice slow climb to altitude. Caution: A motor/gear drive/battery pack that is too heavy for your plane will make it a "bomb" looking for a place to explode. You also need to plan ahead. For example, since a gear drive that needs to use a large propeller, the plane may need longer landing gear legs/larger wheels.

4. It is difficult to build a really small-scale model light enough to fly well or at all with common "micro-sized" R/C gear, electric power systems, battery packs, and covering materials. A 24" wingspan model needs very light yet powerful motor, gear drive, battery, sub-micro R/C hardware, and expert building and covering techniques to be able to fly as well as a 48" wingspan model that is even more heavily wing loaded.

5. Work your way down in model size starting with a 48" to 54" wingspan high wing stick and tissue design if possible. Tackle that 24" wingspan Guillows fighter after you have experience.

6. Most of the rubber scale kits were designed primarily for display. The airfoils are not optimized for lift, but more for scale appearance. (For example, Guillows and Sterling kits with scale type airfoils may not have much lifting capacity despite seemingly adequate wing area. Smaller models tend to fly fast or not at all. Notice that most of the foamy park flyers have under-cambered wings. This allows them to fly slower on less power than scale airfoils.

7. You must keep overall weight to a minimum and plan for proper balance without ballast while beefing up landing gear, motor mounting, wing structure, and the mounting of servos and other essentials. One extra ounce can prevent flight or make a plane fly poorly.

8. If you plan to fly with rudder, elevator, and speed control (no ailerons), the plane will need a fair amount of dihedral, and if the plane is a low winger, it will need even more. (Better to pick a high wing design for early attempts.) Ailerons are not always necessary, and the extra structure can add weight to small models.

9. Most rubber kits are "tail-draggers". You'll need rudder control to keep it straight during rise off ground (ROG) take-offs. ROGs off smooth surfaces are safer for smaller rubber scale plane conversions than hand launches for first test flights. Drive further if necessary to get to a smooth field for its first flights.

10. Adding ailerons to a rudder and elevator plane adds weight, complexity, and current draw. Your electronic speed control must be rated to handle three servos and seven to nine cells if you want full house controls. You may need a power system with more thrust for a plane with "full-house" controls.

11. A small model that can fly well at a total of 12 ounces may be near impossible to fly at 13 ounces. A larger model that can fly well at 28 ounces can usually handle another two ounces and still fly well. This tolerance of weight can be important if you need to add a cell or two to get enough amperage or want longer flight duration.



12. A model that is at the upper limit of its own peculiar weight carrying ability will fly faster (less realistically), tend to snap roll and crash, will land harder, and probably not stay in flyable condition nearly as long as one that is considerably lighter.

More Specific Information

Wing

1. Wing Spars: Some of the rubber kit wing designs may not have actual wing spars, but may have only 1/16" sticks across the ribs to stiffen them. You will need to strengthen such wings by adding a hard balsa or basswood spar at the thickest part of the airfoil on the bottom of the wing. You can taper the spar toward the wing tips to save weight. You can add 1/32 balsa sheet from the wing leading edge to some point on the top of the wing to add strength and stiffen wing. Be careful, as this adds weight. Single piece wings need to be stiffer/stronger than two-piece wings. You may also need to add shims under the outer 1/3 of trailing edge so that you build in a little tip washout before the glue dries. Washout helps prevent tip stalls.

2. Dihedral: If you are building a single piece wing, you'll need to add 1/16 ply dihedral braces to the leading edge, wing spars and maybe to the trailing edge. You will need to build in considerable dihedral for good turning with rudder and elevator only. With ailerons, you will need only enough dihedral to help hands-off stability. High wingers without dihedral act as if they have a little dihedral, and low wingers need considerable dihedral to turn using rudder and elevator only. They also need it for lateral stability. You need to plan on how to mount your aileron servo, if any, and how you will build the hinge and operate the ailerons. (flex-cable, torque rods, etc) You will need to make provisions for a detachable servo lead extension to the receiver.

3. Wing Mounting: You'll also need to decide on how to mount the wing(s) (pegs and rubber bands, nylon bolts, dowel peg in wing to engage hole in fuselage former, etc) Simply gluing the wing(s) and struts permanently can save weight, but the wings and fuselage structure may not survive test flights. Biplane wing mounting can be designed so that the two wings are mounted together with struts, bracing "wires", and removable rearward for access to innards, etc. This can require some careful head scratching. Two-piece wings need to have hooks in the ends of protruding spars, etc, and be held to fuselage sides with rubber bands or some such arrangement. Single piece wings can be mounted with pegs and rubber bands, usually with provisions for the top of the windshield.

4. Wing Struts: You will need to plan on some method of wing strut attachment before covering. I cut down nylon control horns and screw them to 1/16 ply platforms mounted between two ribs and attach metal clevises on the end of the struts to them. The other end of strut has a clevis that attaches to a control horn built into the fuselage. With this setup, you can adjust dihedral and lift or raise trailing edges of the wings to align them to each other or add washout.

5. Covering: Wings for small models should be covered with Litespan, Coverlite, or So-Lite. I don't recommend Silkspan for wings because it punctures easily, requires doping, and adds little strength. Lighter Mylar coverings can be used on larger models that can tolerate the additional weight. Covering with Litespan, etc requires practice. I recommend you practice on mock-up structures and spar balsa sheet until you understand the application of Balsarite or Balsloc, iron temperatures, application to various shapes, shrinking properties, etc. Litespan and Coverlite are sheer polyester coverings that have a directional weave. They must be applied so the grain goes across the wingspan, not the chord. Apply Litespan to the bottom of the wing first, then the top, and then overlap it after applying adhesive to the area to be overlapped. An iron will not shrink these coverings very much. Too much heat can melt the material. Heat shrinking can warp the wing, so shrink bottom first then the top. Just don't overdo it. You may need to reheat and twist wing to remove twists or to restore desirable tip washout. (The front of the wing tip twists slightly downward to avoid tip stalls.)

5. Decals: If needed, decals such as wing numerals can be made from "trim-film" after making patterns using a word processor. They can also be ordered from advertisers in model magazines. Additionally, inkjet decal materials are advertised in model magazines. Apply over a mixture of water and detergent, blot, and



let dry in position. You can use a sharpie felt pen and ruler to mark in aileron outlines. You can send away for nearly correct size decals, but this is fairly expensive.

Tail

1. Enlarging Tail Surfaces: Most scale models can benefit by increasing the size of the tail feathers a little. Increase the height and the chord of the fin/rudder and the width and chord of stabilizer/elevator by about 10% to 15% and plan for this later when redesigning the tail portion of the fuselage.

2. Hinging Control Surfaces: Plan on how you will hinge the rudder and elevator. I often use "figure-8" sewn thread hinges. If done right, this is probably the lightest, strongest, and most friction free way to hinge small model surfaces. I usually cover the stab and elevator pieces first, and then sew them together with thread exposed. This works well if you choose to connect servos to surfaces with pull-pull cables (non-stretchy cord). You can also use under/over strips of iron-on Mylar covering. CA hinges will work too, but it's hard to make slots in 1/8" tail surfaces. Besides, these stitches are stiffer. Pinned hinges are even harder to install in thin tail surfaces.

Fuselage

1. Motor and Gear Drive: Selection of proper gear drives is difficult, even with the aid of MotoCalc, voodoo, etc. There are certain published guidelines that try to predict which motor/gear drive works with a particular size/pitch of prop and battery pack to give a certain wattage and thrust. Unfortunately, you will probably need to get actual "what works" advice for your particular model from fellow flyers, such as the nice folks on the E-Zone, internet hobby suppliers, etc. Luckily, you can often add a cell, change props, or ultimately install a different power system to get an underpowered model to fly or to fly better.

2. Plan Ahead: Each plane's fuselage will cause you to scratch your head. You need to plan where you will mount your receiver, servos, and motor batteries in relation to the center of gravity (CG) as shown on the plan. Your batteries need to be mounted near the CG, with the receiver, ESC, and servos not far behind batteries. Plan to move components around during fuselage construction to get the plane to balance without adding lead or clay. You will want to mount batteries with hook/loop fasteners so that the pack can be removed easily to change packs. You can make functional passenger doors and remove/replace battery packs from the side on high wingers. If practical, it's wise to provide enough space in the battery compartment to fit larger packs if needed or desired later. I had to strap a larger pack to the underside of my Guillows PT17 to get enough amperage for it to fly.

3. Down and Right Thrust: Your motor/gear drive will need to be mounted so that the motor shaft points downward and to the right two or three degrees and still comes out in the center of the nose cowl where it belongs on the real plane. GWS gear drives mount onto a stick that protrudes from the firewall and butts up against the second former. Try to make the mounting stub removable with a retaining method in case of breakage. You can strap direct drive Speed 280, Speed 400 motor, or a Titanic airlines type gear drive to two basswood or hard balsa bearers. A Mini Olympus gearbox can be mounted to a flat 1/8 ply plate with blind nuts. (The plate is glued to the firewall with ply triangle braces.)

4. Landing Gear: You will need to plan to build a strong but light music wire landing gear that will be bound to a 1/16 or 1/8 ply former in front and an added former at the rear. Plan to use Dave Brown-type foam electric plane type wheels to save weight. On WWI or Golden Age designs, you can make light wheels from two balsa discs made into a "pulley" and glue small diameter screen door spline for "tires", with plastic tube bearings glued into the centers. You need to decide on whether your tail wheel or skid will swivel with the rudder or be static. (Don't add any unnecessary weight to tail.)

5. Judicious Beefing-up: You may want to substitute basswood longerons/stringers for balsa ones, at least around landing gear motor and battery area of fuselage where it will take the most strain. You may want to use lighter and thinner balsa for rear fuselage formers to save a little weight in the tail area. You may want to inlay sheet balsa to strengthen the forward section of the fuselage from cabin area forward. Build your fuselage including any provisions for mounting of landing gear, wing and tail attachments, battery and R/C components, strengthening, and weigh saving. Build fuselage side frames one on the other with wax paper



in between to assure symmetry. When assembling the fuselage, pin it down to prevent the dreaded "banana shape". (Straight airplanes fly straighter.)

Pre-Final Assembly Checks

1. Before covering the fuselage, temporarily attach wings, tail surfaces, landing gear, and wheels, and temporarily tape/rubber-band, mount motor/gear drive, battery, receiver, servos, wing, struts, and tail feathers in position to get an idea of how your plane will balance when the fuselage is covered.
2. At this point, the plane should hang noticeably nose down from the indicated CG point shown on the plans. If it hangs level or tail down, rearrange things until it hangs nose down allowing for effects of final mounting methods, final balsa sheeting of fuselage, and covering of fuselage and tail surfaces.

Final Hardware Installation

1. Install the servos and temporarily install the push-rod linkages to the rudder and elevator. You can make control horns from 1/32 plywood to be glued to surfaces after final covering and assembly.
2. Install the battery pack with Velcro and route the wire and connector to the mating ESC connector.
3. Install the receiver with Velcro.
4. Install the motor/gear drive wiring and connector, connect the speed control, and then install motor to mount. Use a small wood type retaining screw to secure the GWS plastic gearbox to the mounting stick.
5. Connect the servo and ESC connectors to the receiver.
6. Install the propeller. (numbers to the front)
7. Connect the battery and check the operation of motor, ESC, rudder, and elevator.
8. Check and correct the servo direction, adjust for a small amount of throw/deflection of control surfaces for the test flights, and then increase later if needed.

Final Covering, Decorating, Assembly and Balance Checking

1. Install any fuselage sheeting or strategic inlaying to strengthen the front of fuselage, and finally cover the fuselage.
2. Install the tail surfaces, and then connect the control horns and glue them to the surfaces securely.
3. Perform any final fuselage decoration using acrylic paint, tissue, trim film, etc.
4. Install wings, wheels, struts, etc, and check the CG again. The plane should hang slightly nose down or level. Relocate battery and R/C gear as needed to achieve proper balance. Don't allow any tail heaviness, period!
5. The propeller "disc" should still be noticeably pointing down and to the right.
6. Correct any warps, misalignments or balance problems as needed, do not attempt to fly with any problems not adequately corrected for the safety of your plane and bystanders.

Checking for Incidence and Warps

1. From the back of plane, sight and verify that the wing panels are on the same horizontal plane and not twisted. If you built in tip washout, each wing tip must be twisted at the same angle.
2. Sighted from the front of plane, the wings must be at the proper dihedral angle and symmetrical.
3. From side of plane, the wings must be at the proper degree of incidence, usually not more than 0 to 2 degrees.



4. From the side of plane, the stabilizer should be at zero or slight positive incidence as indicated on the plan.
5. Check to see that tail surfaces are installed straight and not twisted. Assure that the elevator halves are not twisted in relation to each other.

Final R/C System, Motor and Taxi Check

1. Turn on the transmitter.
2. Connect the flight battery.
3. Check for the correct direction and operation of elevator, rudder, and motor control. If aileron equipped, assure that right aileron is up and left is down position when stick is in right aileron position and vice versa.
4. Check that motor starts and runs in proper direction when the throttle stick is moved upward. Adjust the starting point as needed.
5. Taxi test the plane to see if the main and tail wheels allow for straightforward taxiing on smooth level surface. It may be necessary to adjust the wheels for slight toe in to get plane to track properly during take-off.

Before Test Flying

1. Check all wing attachment and strut connections.
2. Ensure that the propeller is mounted in the proper direction (not backwards).
3. Check for any wing warps again, adjust with clevises if applicable, or reheat the wing with heat gun (not too hot), twist in opposite direction, and then let cool while holding the wing twisted in the proper position.
4. Connect the battery and try all controls for proper direction, end-point, and centering of surfaces.
5. Locate a place to fly with smooth ROG take-off surface, and with adequate space to take-off, maneuver, and land safely. (Do not fly where you are forced to hand launch.)
6. Charge the transmitter battery overnight. Charge the motor battery at the proper slow charge rate at home with a good "peak detector charger". Top it off just before the flight at the field. Batteries lose up to 20% of charge overnight and your plane will need full power.
7. Check for no-wind condition and go to field only if dead calm. Often it is calmest in early morning and evenings. If the wind kicks up, postpone testing. (Why bust it without finding out if it flies.)

Test Flying

1. If you are new to R/C flying or new to flying this type of plane, try to find a person who is a known competent small electric pilot to test fly and trim your pride and joy for you. Have him do a complete independent check of your model for any problems and correct any problems before he attempts to fly it.
2. It is strongly advised to take-off the ground (ROG) rather than risk a hand-launch and possible tip stall and crash with broken wing, broken engine mount, or horrors, be completely washed out beyond repair.
3. New pilots should first practice slow taxiing, and then attempt a take-off using right rudder to keep plane tracking straight into wind. Let the tail lift and the plane accelerate to flying speed, followed by a natural lift off with a gradual shallow climb-out. After gaining about 100 feet of altitude, reduce throttle and trim rudder and elevator for level flight, and make gradual turns to get the feel for the plane. After a few minutes, reduce power and set up for landing with about 1/4 throttle. When the plane is near the ground, cut the throttle and let wheels touch, and then give slight up elevator to prevent a nose over, while letting it roll to a stop.



4. Check the final trimmed rudder and elevator position and adjust the pushrods so that transmitter trim levers can be neutralized with surfaces in trimmed positions.
5. If possible, use a buddy box so you can take over from your instructor/helper in the air, get the feel of it, and land the plane. Continue to use the buddy box while you take-off, climb out, maneuver, and land as described above.
6. Attempts at stalls and recoveries and aerobatics should be made by an experienced pilot, and later by the builder. Both should take into account the strength of the plane, available power, the wing mounting design, and its capabilities. Airplanes equipped with ailerons can fly inverted, do rolls, and more. Rudder elevator planes are capable of loops, barrel rolls, stall turns, etc.

HSS Sponsors

The following companies are the proud sponsors of Harbor Soaring Society. They give us special offers, and make contributions to our Adopt-A-School program. In return, please support them, and mention that you saw them advertised in the HSS Plane Rap newsletter.

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See our NEW web site at www.HarborSoaringSociety.org for a bright new club image. Our other web site can still be viewed at www.1hss.org . Both feature the latest news, the color issue of Plane Rap, photos, and more.

**NEXT CLUB MEETING WILL BE AT OUR NEW LOCATION! 6:00 PM, THURSDAY
SEPTEMBER 7th 2006 AT THE NEWPORT SEA BASE AT 1931 WEST COAST HIGHWAY,
NEWPORT BEACH. SEE MAP ON PAGE 2 OF THIS ISSUE FOR DIRECTIONS AND
PARKING INSTRUCTIONS.**