We are excited to introduce the Model Aero Aqua Sport. This is an excellent sport flyer, equally at home flying from grass fields, water, or even snow! The unique V-tail gives the Aqua Sport a distinctive look, as well as excellent ground clearance.

We’ve incorporated some interesting design elements into the plane which result in a quicker build than some of our other models. The end result is a great flying, versatile plane that you’ll be proud to take to the lake or flying field.

**Specifications:**

- Wingspan–36.0"
- Length–39.0"
- AUW–17-22 oz.
- Wing area-306 sq. in.
- Wing loading-8.8 oz./sq. ft.
- Motor-Spin Max 2212-6 or equivalent
- ESC-40-50 amp
- Prop APC 6/4E
- Battery-1300 to 2200 3 cell lipo
- Controls-Ailerons, V-tail rudder/elevator (requires V-tail mixing), throttle
- Requires 3 micro servos (9 gram)
Parts Identification

- Fuselage sides w/strip (2)
- Fuselage doublers (2)
- Fuselage taper strips (4)
- Battery tray w/ support
- Servo tray
- Nacelle sides (2)
- Nacelle bottom w/key
- Tail (2)
- Nose pieces (9)
- Right wing
- Left wing
- Wing extension
Additional Items Required

- Glue (Foam safe CA/accelerator, epoxy, 3M77 spray, Foam Tac, or the glue of your choice)
- Hinge tape-Blenderm or Scotch Transparent tape
- Power system: motor, ESC, battery, heat sink (optional but recommended)
- Motor/ESC connectors as required
- Adjustable servo connectors (optional)
- Plastic material for bottom of fuselage (optional)
- 3 servos (minimum torque 17 oz-in) Most 9-12 gram servos meet this requirement
- Miscellaneous modeling tools, sandpaper etc.

Construction

It is recommended that you read through the construction guide completely and study all the pictures carefully before you begin building.

Note that some photos may vary slightly from your kit. Additionally, some construction photos may show decals already on the plane. You may find it easier to apply some of the decals such as the wing and tail before assembly, rather than after the plane is built.

Sanding-We use 150 grit sandpaper for foam. The amount of sanding you do on the plane is really up to the builder. We typically round the corners of the wing and tail slightly, just for better appearance. We also round off the fuselage top and nacelle, and the nose pieces.

In this photo, we’ve assembled the main wing panels and glued all the carbon spars into their respective slots. We typically use epoxy for this step. Note that we have placed the foam on top of wax paper. We place the “top” wing surface against the wax paper, then coat the spar with epoxy and insert it into “bottom” wing surface. After wiping away the excess glue, we use tape to hold the carbon tight while the glue dries. Be careful not to leave too much glue on the foam or the tape will not come off!

After the glue is fully cured, we have found that putting a strip of Scotch Transparent tape on each side of the carbon pieces really helps stabilize the joint. You’ll notice the tape in some of the photos.
You may now bevel & hinge the control surfaces using your preferred method. We use simple tape hinges as shown above. The red lines indicate Scotch Transparent tape or Blenderm tape. It’s important that the foam be very clean prior to applying the tape. A tack rag or a piece of tape put down and then peeled off works well to clean the foam of dust.

Glue the fuselage strips and doublers flush to each fuselage piece, leaving 6 mm gaps as shown.
Glue the battery tray square to the fuselage sides. It should rest on the fuselage doublers. Not shown is F1-A which is glued in where shown.

Glue F3 A & B together as shown.
This photo of the bottom of the fuselage shows F2, F3 A & B, and F4 in place.
Top of fuselage showing F2, F3 A & B, F4, F5, and F6 in place.
Above photo shows the fuselage taper strips glued to one side of the fuselage, and the bottom photo shows the two sides of the fuselage glued together.
Photo above shows the battery support piece glued in approximately 6” from F1-B, and the photo below shows the forward fuselage bottom piece in place. It is critical to make tight glue joints on the fuselage bottom pieces to avoid leaks.
Above photo shows the parts that make up the nacelle.

Glue the 3 mm nacelle doublers to the nacelle sides as shown. They should be flush at the top and front and there will be a 6 mm gap for the nacelle bottom.
Top photo shows the nacelle bottom in place and the bottom photo shows the motor mount in place. Note that we have added cooling holes in the motor mount which are not shown in the photo. You may find it easier to attach the motor before gluing the nacelle top on.
The top photo shows the 3 mm nacelle top in place and the corners sanded to a pleasing shape. The bottom photo shows the nacelle “key” which helps align it when glued to the fuselage.
This photo shows the two tail pieces butted together and taped with 2" packing tape along the entire length. This makes assembly onto the fuselage easier. Once assembled the tape can be removed, however we suggest just leaving it on.

The tail pieces are set onto the V portions of the fuselage formers. Once satisfied with the fit, glue them in place.

If you notice any gaps where the tail pieces meet the fuselage, fill them in with latex or silicone caulk.
Another photo of the tail section in place.

This photo details the pushrod guides as they will exit the fuselage. Cut the shrink tube ½” longer than the 2” guide tubes and heat it while it’s slid over the tube and wire. A little dab of Vaseline on the exit of the wire results in a near waterproof setup.
This photo of the bottom of the fuselage shows the servo tray glued on top of the fuselage doublers and the servos installed. Secure them with a little glue. We have used adjustable servo connectors (included in the optional accessory kit) to ease setup while hooking up the push rods.

Although some may disagree with building the servos into the plane like this, we find few issues with it as long as you are very careful to get them centered and functioning perfectly before gluing the fuselage bottom on. And if the need arises to access the servos later it is quite simple to cut a small hatch.
Note the ½” plastic guides in F4 and the shrink tube covered guides exiting the side of the fuselage through the oval slots. The 18” push rods are in place with a Z bend at the control horn end. We have painted the horns black.

It is highly recommended that you seal up the V shaped gap between the tail pieces with scrap foam strips or latex caulk.

Once you are absolutely sure the servos are set up correctly, glue the fuselage bottom piece in place.

Photo at left shows the tip float and nose pieces laminated together. Once glued together sand the nose pieces to match the contour of the fuselage.

We suggest spray adhesive or Foam Tac for this step. Epoxy or CA is too difficult to sand.
The wing has been slid into the slot in the fuselage and glued with thick foam safe CA and accelerator.

The aileron servo is in place and the wood servo arm attached with servo screws. We use adjustable servo connectors (included in the optional accessory kit) to make adjustments easier. The push rods are routed through the thin slots in the fuselage sides. The control horns are glued into the slots.

Note the oval hole behind the servo. Route the tail servo wires through this opening.
The front and rear pieces of the fuselage top are glued in place, while the center section has tabs made from scrap foam and simply “springs” into place.

The sequence when installing the top is to glue the rear section on first, then put the tabs on the center section and tape it in place, then glue the front piece on. The front piece will stick out slightly from the front of the fuselage and will be sanded flush.

Note that the rear piece is critical, as it supports the nacelle and motor. A very secure glue joint is necessary, and the slot in it needs to be aligned straight with the fuselage centerline.

Some sanding will be required on all three of the top pieces to achieve an exact fit.
In this photo the nacelle with motor has been attached to the fuselage top. Make sure the nacelle and motor are lined up with the fuselage centerline.

Depending on the motor and ESC used, you may need short (2-3 inch) motor extension wires. With our recommended setup there is just enough wire to make the connections.
In this photo a heat sink has been attached to the ESC and a hole cut in the top hatch for it to stick through. Some type of cooling must be provided to keep the ESC from overheating. We prefer the heat sink, but small air vents can also be used. The RX is positioned on the side of the fuselage.

Note the strip of Velcro (not included) to hold the battery in place. If using a 3S 2200 battery it will be positioned all the way back nearly to the aileron servo. Of course batteries vary considerably in Weight, so it’s important to check the CG with whatever battery you are using.

Tip floats are attached flush with the wing tip.
Note that the wing extension pieces are in place as well as the nose piece which we have painted black.

Use this photo as a reference for applying the decals. The top canopy decal should be applied first, 5/8” back from the hatch seam. The canopy decals peel and stick with no transfer paper.

All the decals except the canopy use transfer paper to apply. Pre-trim the decals pretty close to the edge, then carefully peel the decal and clear transfer paper off the release paper. If the decal wants to stay on the white release paper, simply press it back down firmly and try again. Position the decal on the plane and gently rub it down repeatedly. Then carefully peel the clear transfer paper off the decal. If the decal wants to lift off the foam, just press it back down, rub it firmly, and try again.

Note that the foam needs to be dust free when applying the decals. Also, they will be easier to apply if the room temperature is 70 degrees or higher. Use the photos to determine decal location.
We suggest some kind of protection for the bottom of the plane to prevent scuffing and wear. We use these plastic folders found at Walmart or other stores. They are inexpensive and come in assorted colors. Simply trim them to fit the bottom and attach with spray adhesive or other glue.
Congratulations!!! That completes the construction of the Aqua Sport. See below for setup tips.

Setup and Flying

Adjust the flight controls to provide the following recommended deflections (all measured at the root trailing edge):

**High rates:**
- Ailerons: 3/4” each way (40% exponential)
- V-tail: 3/4” each way (40% exponential)

**Low rates:** 70% of the above settings.

**Note:** We recommend low rates for the first flights until you are familiar with the plane.

**CG:** The recommended CG location is 1/4” aft of the fuselage step or approximately 3/8” behind the forward wing spar. Note that if using an unusually heavy battery you may need to add a small amount of weight to the tail to get it to balance properly.

To take off just add throttle and slight back pressure on the stick, and the model will leap off the water in about 10 ft. Or you can bring the throttle up slowly and fly it off the water gracefully.

You’ll find this model is smooth and well-mannered in the air, with no bad habits. But it's also capable of excellent aerobatics!