by Cliff Becker

GLOW POWERED SEAPLANE

A new and improved seaplane

MAXFORD USA

Neptune V2

A few years ago, I received the original Neptune to review. It flew well, but could have used some modifications to make it even better. Since that time, Maxford owner Richard Sang, an avid aviator and RC flier, evolved his company in a new direction. Instead of purchasing airplane kits from distributors, the company now designs its own planes, adhering more to its original conception of creating planes that are easy to assemble and fly while maintaining a scale-like appearance. Now that they are designing their own planes, the company has moved to the next level of customer satisfaction. Before a plane is released to the public, they have to be totally satisfied with the assembly process and flying characteristics. When something is wrong, Maxford takes full responsibility for quality and flight characteristics and wants to hear from its family of customers on how it can improve its products and correct any problems.

The Neptune has had an overhaul since my review a few years ago, and suggestions I made have been incorporated and a few others were added, owing to advancements in technology. The plane has been given a new color scheme, which is pleasing to the eye, but still maintains its excellent water and flying characteristics.

The Neptune V2 arrived unscathed. All parts were secured with packing tape and cushioned with bubble wrap. The covering was wrinkle-free so no heat gun work was required. The fuselage is constructed of light ply, which allows the plane to take those hard landings on water, and the wing and tail surfaces are all wood construction. With the new modifications—carbon-fiber tubes in the wing and engine pod, the magnet addition to the pod cover that allows quick access to the throttle servo, fuel tank and fuel lines, the front hatch addition creates easy access to the flight battery and balancing the plane—the dry weight has been cut down by six ounces. Also, the aileron servos were moved into the fuselage, which reduces drag on the wing and keeps the servos dry.

After checking that all parts were accounted for, I started construction. There is a sheet of addendums that has been added to help in the assembly process, so I located in the manual where these addendums were to be inserted. There is also an addendum for a step-by-step conversion to electric power.

TIPS FOR SUCCESS

The manual is very simple and straight forward, so all I will discuss are areas that might need some modification owing to the equipment you use and your own preference. I had to enlarge the openings for the elevator and rudder servos. Another area I completed later were the cross brackets that stiffen up the push rods in the fuselage. I didn't glue them into position until the final installation of all the radio equipment because it gave me some wiggle room to move the equipment around inside the fuselage.

Make sure you have a good wood-to-wood fit when epoxying the vertical stabilizer to the fuselage and the horizontal stabilizer to the vertical. Measure two to three times to ensure the vertical and horizontal stabilizers are centered, squared and flat in place before epoxying. Once I was 100 percent sure that all was properly set up, I then glued them using 30-minute epoxy, which soaks into the wood to give a very strong waterproof bond. I used my sand bags and masking tape to keep everything in place while the epoxy cured.

The original Neptune wing had the servos out on the wing. I modified it by moving the servos in to the center of the wing. Guess what? The new Neptune has the servos in the center of the wing and uses torque rods to move the ailerons. If you want, you can make another modification and use only one servo for the torque rods saving more weight and battery power.

A carbon fiber tube has been substituted instead of the three pieces of ply sandwiched together to join the wing. All you have to do now is put a little glue on the carbon-fiber tube and insert it into the wing, push the halves together and let the glue dry. The carbon tube reduces construction time and weight. When it came to attaching the tip floats, they either attach with Velcro or can be permanently attach to the wing tips. I chose to permanently attach them. When gluing them to the wing tips, expose as much wood between the two surfaces as possible so you get a very strong bond. They do take a lot of stress, especially on taxi turns.

After the wing was assembled with hinges glued in, servos in place and push rods connected, it was back to completing the fuselage. The horizontal stabilizer is supported with struts. Don't forget to back the screws out the first time you install them and stiffen the threads with thin CA so the screws don't pull out.

The elevator servo is set up to pull the elevator up when changing pitch angles. You get a more positive response when the servo pulls the rod instead of pushing it. I used metal rods instead of the supplied plastic ones. I feel they give more positive response to my radio inputs.

When completing the rudder pushrod, be sure to seal the outer sheath where it exits the fuselage. The pushrod exit is below the waterline while at rest, and water could leak into the fuselage in this area. Also, wipe a little Vaseline or white lithium grease around the pushrod at the exit to prevent water from entering through the outer sheath.

The engine pod set up is a critical segment of the assembly process. If you fail to get the pod straight, your thrust line will be off and the plane will be a handful in the air. The pod setup has been simplified from the original. A carbon fiber tube is now used and is secured to the fuselage with a bolt and blind nut that has been predrilled and set up.

To add more support, I did epoxy the bottom of the tube to the fuselages floor. Also, be sure to Loctite the bolt to the blind nut. Once the carbon fiber tube was secure, the engine pod was then mounted to it.

I chose to mount the engine upright instead of on its side as recommended in the manual. I just feel it's easier to work on, and to start, in this position. Once the engine was in place, I installed the fuel tank. I also had to enlarge the throttle servo tray to receive the servo. The cover that finishes the pod hooks in place at the front end and the back end has a magnet. Make

PHOTOS BY WALTER SIDAS

During assembly, setting up the pod's thrust line is extremely important in terms of how straight and level the model will fly—hands-off.

SPECS

PLANE: Neptune V2
MANUFACTURER: Maxford U.S.A.
DISTRIBUTOR: Maxford U.S.A.
TYPE: Glow power flying boat
FOR: Intermediate to expert
WINGSPAN: 60 in.
WING AREA: 713 sq. in.
WEIGHT: 6 lb., 2 oz.
WING LOADING: 19.8 oz/sq. ft.
LENGTH: 55 in.
RADIO: 4 channels required; flown with a Futaba T7C transmitter, Futaba R617FS receiver, 4 Hitec HS-325HB servos
ENGINE: O.S. Max .46
PROPELLER: APC 11x7
TOP RPM: 10,500
FUEL: Morgan Cool Power 10 %
ONBOARD BATTERY: Futaba NiCd 2,700mAh
PRICE: $189.99
COMPONENTS NEEDED TO COMPLETE: Engine, propeller, radio equipment, fuel and fuel tubing

SUMMARY
Maxford has taken a proven model and improved it further with the Neptune V2. This flying boat is easy to assemble, has very good water-handling characteristics and is a pleasure to fly. With its plywood construction it will serve you well for a long time.

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sure you get the plywood hooks in place. The first time I ran the engine on land, fortunately, the prop blast blew off the cover because it wasn't properly secured. The magnet and hooks replace the screws that would normally be used, making it a snap to get at the servo and fuel tank for those minor adjustments. I did encounter two problems when placing the cover on the pod. The inside plywood attached to the cover was reversed, a mirror image, so plywood material was in the way of the servo arm. I just cut the ply out so the cover would fit flatly and snugly. The second problem was that the E-Z connector hit the top cover, so with my Dremel, I cut an arc to allow the easy connector to move freely.

Reflecting back, I probably could have used a Z bend at the servo arm and I wouldn't have had to cut the cover. If you have them same problem, explore a Z-bend set up.

Once all the parts were in their proper location, it was time to glue the pod in place. Spend time in setting the pod up so it will be perpendicular to the fuselage. I ran a string from the top of the tail's center to the center of the nose; I then centered the pod on the string. When satisfied, I then glued the pod assembly in place.

It is suggested to run all the radio wires through the carbon tube into the fuselage before gluing the pod in place. I chose not to because sometimes I get glue on everything and I didn't want to glue the wires to the carbon tube by accident. After the assembly dried, I dropped the wires down the tube and pull them out with a pair of tweezers. Everything worked out very well. In securing the cowl to the pod, I had to substitute an Allen head screw for the regular one because the fuselage was too close to the bottom of the cowl to use a screwdriver. Loctite all metal-to-metal, bolt-to-nut connections, and use fuel tubing to make clevis locks to secure the push-rods to the control surfaces.

During my final setup, I discovered I needed to add several ounces to bring the Neptune V2 into perfect balance. Instead of adding lead as dead ballast, I went with a larger 2700mAh battery. The extra battery not only balances the model, it also ensures I don't have to worry about running low on power at the lake.

Overall, the Neptune went together very well and was ready for the water in about a week of short nights down in the hangar.

There's plenty of room for your radio components in this fuselage. I had to slightly enlarge the servo openings to accommodate the servos I used.

SETTING UP FOR THE FIRST FLIGHT

In balancing the plane, the addition of the front hatch allows one to easily place the flight battery and necessary weight way up in model's nose. It makes it especially easy when you electrify the plane to get the battery out; you don't have to take the wing off the plane. Next, I set up the throttle to be very reliable at idle. I hate when the engine quits after landing and you have to paddle out to retrieve the plane.

Once all the control surfaces were set to the recommended specs, the Neptune was ready for taxiing maneuvers on the water. With the rudder in the water, the plane steers well at low taxi speeds. The wide-base tip floats also improve the water handling. They act like large wake boards and stay on top of the water without digging in, thus preventing the wing tips from hitting the water.

AIRBORNE

The morning of the maiden voyage was a breezy one. I warmed up my O.S. .46 and placed the plane in the water. I ran some low-speed taxi tests, and the plane responded well with the rudder deeply placed in the water. I then transitioned into high-speed runs up and down the lake. During high-speed runs, the tip floats never touched the water. I just used some rudder input to keep the plane tracking straight. I was very satisfied with the Neptune's handling in the water, so I brought it in for a refueling.

Back in the water I slowly taxied out on to the lake, pointed the nose into the wind and gradually brought the throttle up to full. The Neptune picked itself up, skipped across the water and lifted effortlessly into the air. The O.S. .46 and APC propeller combination provided plenty of thrust to get off the water. Once in the air with sufficient altitude, I backed off the throttle. There was a stiff breeze on the lake that morning, and I was using about ¾ throttle into the wind and dropping the throttle about a ¼ throttle going downwind.

Flying into the wind the plane allowed me to perform very, slow flybys. I challenged myself to see just how slowly I could go into the wind before the nose would drop. After getting a feel for Neptune's excellent flight characteristics I set the plane up for some rolls, loops and split S's. All were easy to perform. With inverted flight, which is not a characteristic of a sea plane, I had to input down elevator to keep the plane from losing altitude. The Neptune is very stable in the air and has a very predictable glide path. I did several touch and go's and not once did the tip floats touch the water.

For landing, I set up a glide path parallel to me so I can touch down within a hundred feet to my left or right, depending on the wind, and then taxi the plane back to me. The plane can be flown gently back onto the water for picture-perfect landings. This is a great first plane for someone who is learning to fly off water.

The original Neptune flew well. With the modifications to the Neptune V2, it is lighter and flies even better. This is a stress-free flying plane.

CONCLUSION

With the newly incorporated improvements, the Neptune V2 is an even better seaplane than when it was first released. I have had countless hours of fun just flying touch and go's off the calm lake by my house. If you enjoy flying seaplanes, then pick up a Neptune V2 and head to the nearest lake. ✪

Links

APC Propellers, distributed by Landing Products, www.apcprop.com, (530) 661-0399

Futaba, distributed exclusively by Great Planes Model Distributors, www.futaba-rc.com, (800) 682-8948

Maxford USA, www.maxfordusa.com, (866) 706-8288

O.S. Engines, distributed exclusively by Great Planes Model Distributors, www.osengines.com, (800) 682-8948

For more information, please see our source guide on page 121.