

by Cliff Becker

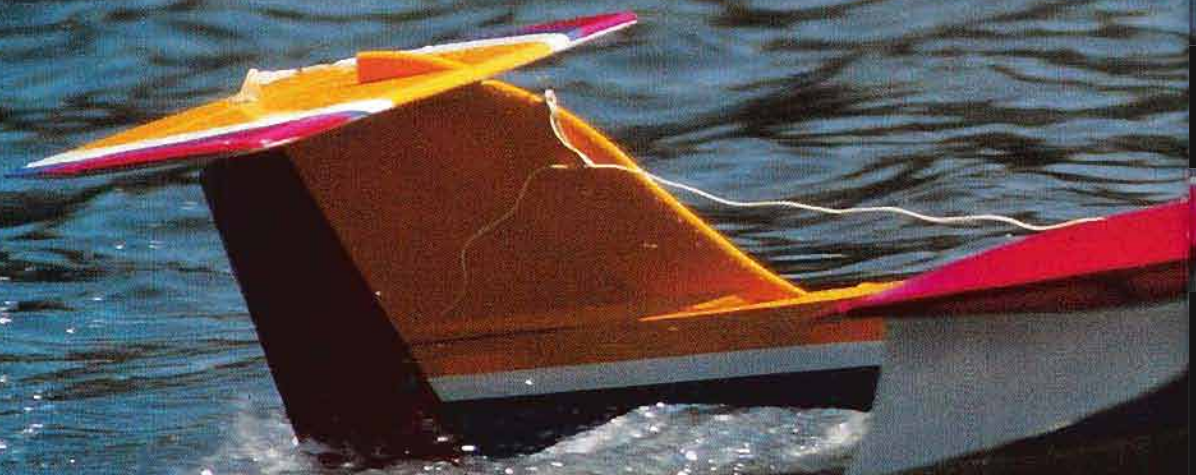
Summer often means spending time with the family at the lake, but fortunately, you don't need to leave your models at home. The Neptune from Maxford USA is a sleek flying boat with an eye-catching color scheme that is perfect for those days when you want to fly off water.

Just out of the box, the plane was in pristine condition. I didn't even have to break out my heat gun to remove wrinkles as there were none. The laser-cut plywood fuselage has numerous lightening holes and doubling reinforcements that create a light and strong airframe that should easily withstand the stresses of flying off water. The built-up symmetrical wing promised excellent handling and aerobatics. The fully constructed engine pod even has a center slot for the throttle servo wire. All holes have been pre-drilled for the engine mount and fuel lines. There is plenty of hardware supplied to complete the project, including the fuel tank. After looking at all these great features, I was ready to begin construction.

TIPS FOR SUCCESS

I read the instruction manual cover page, or attempted to. The only English contained in it was on the front page. It read "Warning, this model is not a toy." The rest of the manual was in Chinese with poor photocopied pictures. I have since found out that the kit I received was a sample for the Chinese market. Current kits come with an English manual. It is a testament to the designers though, that I was able to complete the kit with only a few illustrations as guidance.

I proceeded by fitting entire areas together before applying a drop of glue. Once you are sure that the section is correct and will not interfere with another assembly process, glue the assembly together with epoxy or waterproof wood glue. I used Z-Poxy and Titebond III throughout. Although the manual was an issue, the plane was fairly straightforward to assemble. I recommend you pay close attention to the following construction areas so you end up with a solid flying craft.



MAXFORD USA

Neptune

ARF Seaplane

Enjoy this beauty at the lake this summer



SPECS

PLANE: Neptune

MANUFACTURER: The League Model Manufacturing Co. LTD

DISTRIBUTOR: Maxford USA

TYPE: Sport flying boat

FOR: Intermediate pilots

WING SPAN: 59.8 in.

WING AREA: 673 sq. in.

WEIGHT: 6 lbs., 6 oz.

WING LOADING: 21.8 oz/sq.ft.

LENGTH: 55 in.

RADIO: 4-channel with (5) servos recommended, flown with Futaba Sky Sport 4 transmitter, Futaba FPR 127 DF receiver, Futaba S3004 servos

ENGINE: .46 - .61 2C recommended, flown with O.S. .46AX

PROPELLER/SPINNER: APC 11x7

TOP RPM: 11,000

FUEL: 15% Byron

ONBOARD BATTERY: Sanyo 1800mAh

PRICE: \$189.99

COMPONENTS NEEDED TO COMPLETE:

.46 - .61 2-cycle glow engine, 4-channel radio and flight pack

SUMMARY

The Neptune is a smart-looking flying boat that is well mannered on the water and has excellent handling in the air. This ship would make a great introduction to water flying for someone with a few other models behind them. For the most part, the assembly is straightforward, though I did proceed with caution because of the Chinese manual, now corrected. The solid construction and clean aerodynamics make for a winning package that should give many seasons of fun at the lake.

After laminating the main spar joiner, sand it smooth so it slides easily into the wing root slots. This will also help the epoxy cover all areas during assembly. Sand points on each of the wing dowels. This will help find the spar joiner holes when inserting the dowels through the leading edge. Experiment first on one side

when you can still see the dowel entering the wing joiner.

Carefully remove enough covering when gluing wood to wood. Leave approximately 1/8-inch of overlap on the inside so that you don't have any exposed wood when the two pieces are glued together. Give the vertical and horizontal stabs one or two swipes with coarse sandpaper to roughen up the wood for a strong glue joint. There are no vertical braces, just two flat, broad pieces of wood being glued together. Also take time to measure and re-measure the vertical and horizontal stabs to ensure they are properly aligned with the wing and fuselage. If they are not properly aligned, the plane could have a mind of its own. Waterproof the pushrod guide exit for the rudder with epoxy because water can seep in at this point.

The fuel tank installation instructions are not very clear. I had to fit parts and see for myself how the tank fit into the pod area. Once satisfied on the proper placement, I epoxied the pieces together.

I also opted for a few additional changes to improve the longevity and performance of the plane. I installed a Du-Bro



The fuselage structure is laser-cut ply and the radio gear mounts up and away from the cabin floor to withstand the rigors of flying from water.



Universal Kwik-Switch Mount, part No. 203. This allows me to operate the receiver switch

AIRBORNE

The first day at the lake was a little windy. I measured the winds at 15 mph, gusting to 20 mph. Despite this, the water seemed relatively calm. All eyes were on me, the pilot, to fly or not. I decided to fuel up and put the plane in the water to see if it would float and at least try out the water handling. I put the glow driver on the O.S. .46 and tapped it with the starter. The engine popped and purred like a kitten. After checking various power settings with the nose up to make sure it wouldn't lean out and quit, I put the Neptune in the water.

As I taxied off into the wind and pushed the throttle up, I lost steering control. The plane just swirled around in the water. I fiddled with the throttle a bit and discovered that at a taxi speed just above idle, the base of the rudder was in the water. This gave me ample steering. As I made a pass by the dock, I transitioned from idle to full throttle and decided to go for it. In a few seconds the Neptune skipped across the water and was climbing. The plane penetrated very well in the stiff wind. When I gained enough altitude to turn, the plane responded immediately and arced downwind. The plane also responded smoothly without excessive ballooning when turning back into the wind. The windy conditions actually seemed to make this a blast to fly.

When I finally brought the plane around to land and approached the water, it remained about two feet up and just wouldn't touch down. I had to give a little down elevator to nestle it back on to the water surface. In subsequent flights, I realized that even at idle the Neptune must have been holding that altitude in ground effect. I taxied back to the dock, checked out the plane and put it up for a second run. Being more comfortable, I played the throttle much more, using full power only while coordinating elevator and ailerons for steep turns. With the wings level, I could easily back off to one-third throttle and not lose altitude.

Even when dragging the tip float with the rest of the plane flying, the wide float did not dig in, and I was able to fly through the splash. I don't think the swan was impressed.



inside the plane and keep the water outside. The manual shows the on/off switch inside, without access, so you must remove the wing to turn the plane on or off.

Check the lateral balance to enhance stability during water takeoffs. Proper balance helps keep the wing sponsors from digging into the water on takeoff, resulting in nice straight takeoffs.

The exit hole for the stabilizer pushrod seemed to be drilled in reverse. I enlarged the hole so the pushrod aligned more accurately with the control horn and sealed it with epoxy.

I made another modification to the wing that took a few nights to complete. Instead of mounting two aileron servos under the wing, I installed a single servo in the center section with Sullivan Gold-N-Rods out to the ailerons. I felt that splashing water could



These included clear covers shield the aileron servos from getting splashed.



My modified aileron servo installation helps keep the radio dry.

contact the servos mounted under the wing. I installed the aileron horns first to establish the proper exit angle for the pushrod sleeves. After creating the exits, I epoxied the sleeve to the third rib. When the glue had thoroughly cured, I gently bent the casing to the opening in the center of the wing. Satisfied

with that position, I then epoxied it in place. I sealed around the exits with strips of MonoKote to prevent the water from entering the slot.

I discovered later that this modification was not really necessary. The kit includes two clear pieces of formed plastic "bowls" with flanges around the outside. These covers protect the aileron servos, leaving only the output arm exposed.

SUCCESS IN DESIGN

A friend has commented that this was the best-handling plane he has seen on the water. The reason for the great performance is the design. The symmetrical wing creates good lift yet retains neutral handling. At low speeds the wide tip floats, preventing the wing tips from digging into the water. This allows the plane to track straight while building up speed.

The T-tail horizontal stab arrangement raises the elevator and horizontal stab up into the prop blast so you have plenty of control authority. It

also helps keep the tail above the water spray for an aerodynamically cleaner surface for air to travel over.

Having the engine mounted high above the wing considerably reduces water spray on the main wing, which also results in a quicker liftoff from the water. All these factors create a great-flying water stable airplane. This is a real winner.

CONCLUSION

This is a great-flying plane that is very stable in the air and tracks excellently in the water.

My lack of an English manual definitely slowed the build progress. On the other hand, the assembly process is really not that complex. If you have already put together a few models, you will be able to sort out this one as well. Once at the lake, the O.S. 46's ample power and the low wing loading quickly get the Neptune airborne, and let it settle gently back into the water. Yeah, I'm looking forward to a long, hot summer at the lake! ☺

Taking the O.S. Challenge

Quite simply, the O.S. .46AX is a robust aggressive bulldog. No, it is not the smallest or lightest .40-class engine out there, but it will hold its own in any shootout, producing up to double the power of other engines in this displacement range. Its rugged construction and high power output make it one of our



favorites for models that need a bit more from a "forty" than the average sport engine can muster. Relatively new to the O.S. line, we don't have long-term field experience with it yet, but have every reason to believe it will live up to O.S.'s well-deserved reputation for building quality engines that work well from their first start, and just keep pulling season after season. We look forward to a long and satisfying relationship with the .46AX.

Links

Byron Originals,
www.byronfuels.com,
(712) 364-3165

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

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

O.S. Engines, distributed
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For more information, please see our source guide on pg. 185.

