

■ OSPREY I

Build an R/C scale model of this striking homebuilt flying boat, which once again proves that you don't need brute power to take off from water ... just good hull design. By DAVE RAMSEY

• The Osprey I has to be one of the neatest seaplanes I have yet seen. The full size Osprey is a single place, sport flying boat homebuilt, designed by George Pereira, it is constructed mostly of wood, covered with fiberglass. The only metal in the construction is the center truss which holds the engine and the wing folding assembly.

The Osprey I is painted white, Hugger Orange (auto paint), and black. The full size aircraft can be built for around \$1500, less engine, prop, and a lot of work. So for the time being I will have to content myself with my model. I feel that the model Osprey I is the most impressive flying and looking seaplane I have built, and I think that anyone building her will feel the same.

The full size OSPREY I is built almost like a large model, which makes it very easy to build as a scale project.

When my OSPREY was completed, she weighed 8 lbs., ready to fly. Due to the high thrust line and pusher configuration, the OSPREY does not act like an ordinary airplane. With power on, the nose wants to pitch down, and up elevator will have to be held in. This is quite apparent when taking off. When reducing power, the nose will pitch up.

With these power changes in action, landing becomes most interesting. After many tries at making a good landing, I have arrived at this procedure: (1) Power-reduced to establish a rate of descent,

(2) when it is time to level out before the flair, cut back on the power. With the power at idle, the nose will come up and she will sit down just as nice as you could ever want. This does take practice, however, and after 30 or so flights, I am still working on the landings.

The model is stressed for hard flying and will take a beating. Acrobatics are no problem as long as you remember she is a *scale* seaplane.

One thing that puzzles people when they first see my OSPREY, is how can it get off the water, at that weight, with only a .40 for power. All I can say is she's got a good hull and 800 sq. in. of wing area. After all, the wing loading is light and more power for this scale airplane only equals more problems.

FUSELAGE:

The sides are cut first and the longerons are glued in place, along with the 1/4 inch square balsa strips. The formers are used to align these pieces. When the sides are completed, they are glued to formers F4, F7, and F8.

When the fuselage is square and dry, the sides are pulled together and the remaining formers are added.

NOTE:

Plan your equipment installation and make the cut-outs in the formers before the formers are glued in place. For added strength to the formers, tack glue the cut-outs back in place and remove them

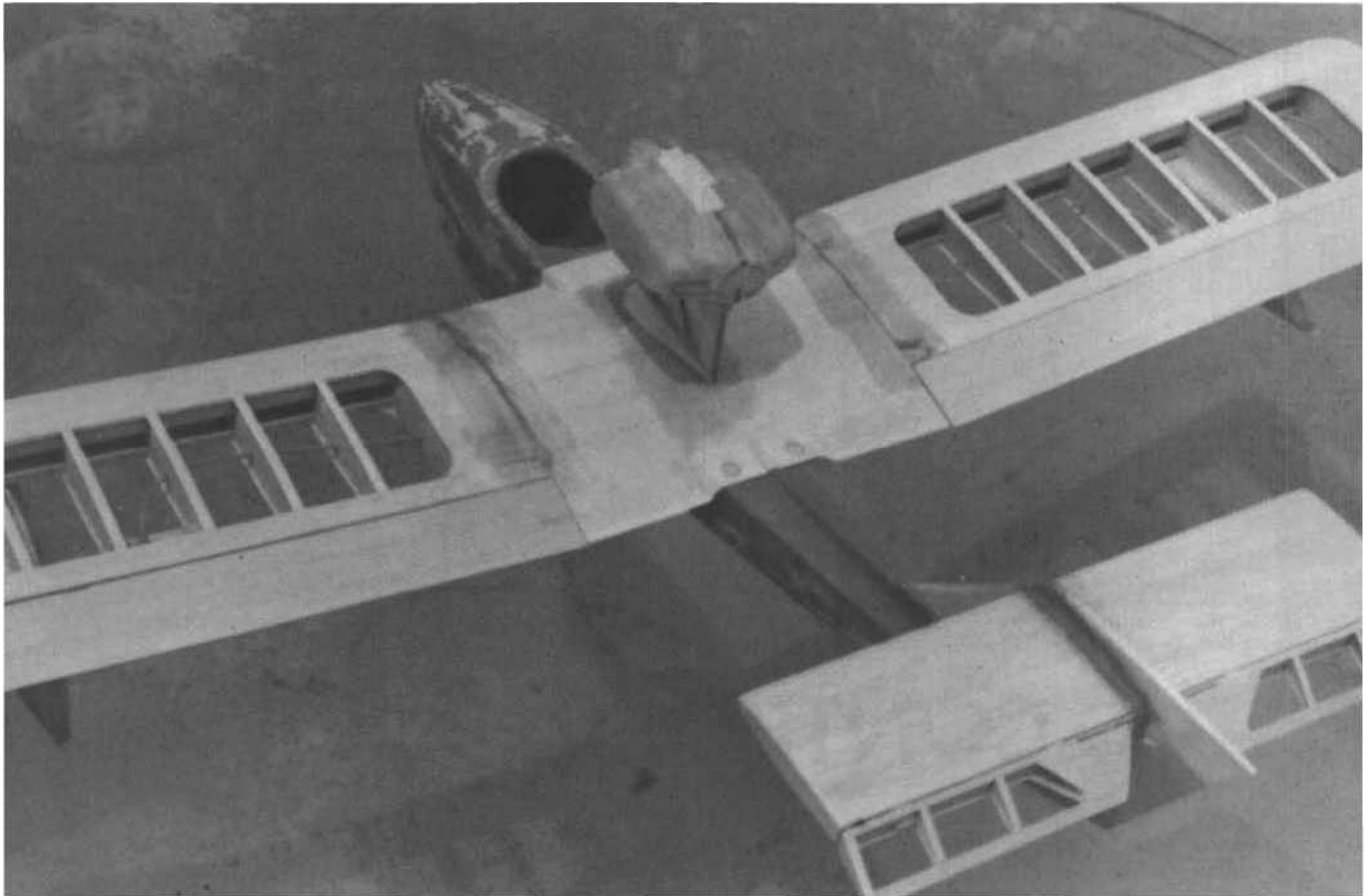
before the hull is sheeted.

FIN AND RUDDER:

The fin is made up of three pieces of sheet balsa epoxied together. Before these pieces are assembled, make a slot in the 1/4 inch balsa center sheet for the push rod outer tubing. The fin is epoxied together with the tubing inside.



Author Dave Malt up the radio compartment before another flight. Been wading, Dave?



Although designed and built primarily for personal amazement, the Osprey could be used in both Sport and "Museum" scale ... problem is, you'd probably have to bring your own pond) Basic structure is quite simple. Engine pod could be hollowed blocks or fiberglass.

The fin is glued to the hull and an Epoxylite fillet is used to fair the fin and the hull and to add strength to the joint. Light weight fiberglass strips should be used with the Epoxylite. The construction may look weak but it has not yet failed.

STABILIZER AND ELEVATOR:

The stabilizer and elevators are built up in the normal manner and the stab is epoxied at right angles to the fin. The elevator horn is made from brass sheet and silver soldered to a piece of 1/8 inch O.D. brass tubing and then epoxied to the elevator. Epoxylite fillets are used where the stab is glued to the fin.

WING:

The wing is built in three pieces; the two outer panels and the center section. Golden-Rods were used for the aileron connections. The wing sections are glued together with 4 inches of dihedral under each tip. The motor pylon is epoxied between the two center ribs and squared up. The A-1 pieces are added to each side of the pylon. The motor should be fitted and the nylon tubing fitted through A-1 and the wing. Brass cable was used for the motor- servo connection.

FIBERGLASS COWL:

If you don't feel like carving your own, cowls are available at \$18.00, postage included. See address at end of article. The right side cowl is epoxied to the engine pylon and houses the gas tank (8 oz. RST). The tank is mounted with the tubing outlets facing the front.

GE Silicon Seal was used to hold the tank in place. The left side is removable, using 4-40 nylon screws to hold it in place. Finally 1/32 inch plywood is wrapped around the pylon with Epoxylite, forming the fillet at the cowl and the wing joints.

TIP FLOATS:

The tip floats are easy to build, the only problem is bending the wood. If the sheeting is well soaked prior to assembling, it will be easier to work. Ambroid works well with wet wood.

FINISHING:

I suggest that you cover the OSPREY with Coverite. Use finishing resin on the bottom of the hull for a glass like surface.

My OSPREY was painted with dope. Hobbyoxy would also work well. Colors are gloss white, orange and black. **WATER PROOFING:**

A must! GE Silicon Seal makes a good seal between the wing and the hull, and should be applied after painting the model. To make this, place a piece of plastic sheet (Monokote backing or Saran Wrap) on the bottom of the wing and tape it in place. Squeeze out a silicon bead along the hull where the wing touches the hull . . . Don't skimp. Fit the wing in place and screw it down tight, then back off one turn. Let dry for 24 hours. Trim the silicon on the outside when dry. Before assembling the OSPREY for each flying session, add a small amount of vaseline to the silicon before attaching the wing.

To waterproof the cockpit, make a hatch

from 1/4 inch balsa that is 1/16 undersized all around when fitted into the cockpit. Paint with black epoxy. Attach 1/16 x 3/8 inch strips of golden foam (adhesive one side) to the hatch edges. The fit should be tight. A 1/16 wire loop is epoxied to the hatch so that it can be removed. A rubber band between the hull and the hatch will keep the hatch from coming out while flying. The radio switch should be mounted in the hull. Vaseline should be used where pushrods exit.

ENGINE:

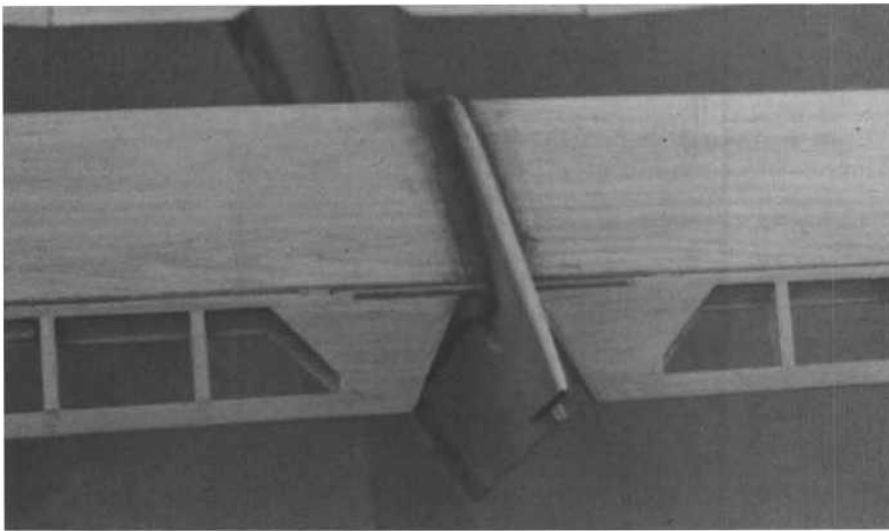
A .40 is recommended as the only size. A double ball bearing crank shaft is a must if you want the engine to last. Most engines work with tractor props, in which case a single bearing is OK. Since the OSPREY uses a pusher prop, the forces work in the opposite direction on the engine. I wore out a plain bearing OS .19 when used with a pusher prop. A 10-6 Tornado prop (PUSHER) is used with the .40 engine.

FLYING:

ROW . . . Hold full up elevator and add full power. When the OSPREY climbs onto the step, hold about one half up and she will fly off. Don't yank it off.

To turn, use rudder and ailerons. Even with those huge ailerons you will need the rudder, especially when the nose is pitched up. You will need less than half power for normal flying; trim for level flying.

When landing, use the power to control altitude; the nose will pitch up when power is cut and will slow down.



Elevator is operated by Nyrod linked to brass horn which is soldered to tube/joiner. We'd feel better if a wire pin went through tubing into each elevator half.

Stay off the elevator as much as possible during landings. If landed too fast, she will bounce. If this happens, add some power and up elevator.

Stalls are gentle and surprising. The first indication of an approaching stall is the feeling that your radio has stopped working. When in a stalled condition, the ailerons and rudder will become completely useless. In this condition, she will just sit there and that's it. If you decide to pull in more up elevator, she will drop a wing and spin. When the stall occurs, add down elevator and full power until speed has been gained.

SCALE INFORMATION:

Scale information is available from George Pereira, Osprey Aircraft, 3741 El Ricon Way, Sacramento, California, 95825. The cost is \$3.00.

I would like to express my thanks to Mr. Pereira for his time and help in building my OSPREY I.

For additional information regarding the model Osprey I, or built up fiberglass cowls, write to: David A. Ramsey, Box 78, Chester, New Jersey 07930.