

Hovertoon RC Prototype

In order to determine the feasibility of the concept of a hovercraft/pontoon hybrid, a 1/12th scale model of the craft was built using radio controlled electric motors and servos to power and control the craft. Manual extension and retraction of the pontoons was utilized and no outboard motor was incorporated. A three channel radio was all that was required, which provided a left throttle lever for control of the two front lift squirrel cage fans and the right up/down (elevator) stick was incorporated for forward/reverse on the two rear ducted fans used for thrust. The right rudder stick was used for the two sets of rudders on the rear of the craft. All four motors were powered by a six cell set of NiCad batteries, three on each side under the lounge seats. Two inch PVC central vacuum pipe was used for the pontoons and other hobby shop PVC tubes were used to simulate the four hydraulic rams that extend the pontoons 135 degrees outward. This provided a good test bed for the concept which weighs in at 5.5 pounds and is still able to lift the craft and 24 ounces of extra weight. The extended pontoons provide the additional surface area needed for lift and stability and when retracted show the trailer ready configuration for transport or cruising with an outdrive which would be mounted towards the rear third of the craft. The pictures below show the model concept.



Hovertoon RC prototype and associated 4 channel radio shown with the pontoons retracted. Side thrust inlets allow the use of a retractable Bimini top. Batteries are hidden under the lounge seats and the receiver is hidden under the driver's console.



Rear view of the craft showing the rudders tucked behind protective bars and the two ducted fans located under the back deck.



Side view showing the ducted fan inlets and protective bars, side door, Bimini top, and full length piano type hinge that connects the pontoon to the deck and provides an air tight hinged seal.



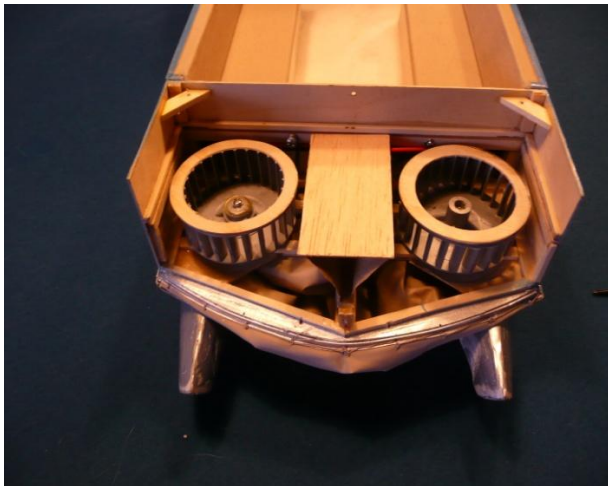
Rear view showing the two sets of rudders with a servo in the middle. The shower curtain material was not as flexible to scale and is somewhat bunched up in the middle.



Rear view showing the deployed pontoons and hovercraft skirt that provides the lifting area.



Front view showing the inlets for the lift fans and the deployed pontoons and hovercraft skirt.



Front view with the cowling removed showing the two squirrel cage fans used for lift.