

Mallard Drake shown. Other varieties available.

Vac-U-DuckTM

Radio Controlled Duck Hull Kit (Electronics not included.)

Manufactured by Vac-U-BoatTM
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Thank you for purchasing this Vac-U-Duck kit. It is completely assembled and ready for you to install your battery, receiver, servo, and electronic speed control. The drive system is very durable and should provide years of service with very little maintenance. There is plenty of room inside for your radio gear and battery. With a two channel radio, electronic speed control, and a new fully charged 1,500mA 7.2 volt rechargeable battery, Vac-U-Duck will cruise for 1.5 to 2.0 hours! Oilite[®] bearings support the stainless steel prop shaft in a custom-drawn brass stern tube. A tube of non-toxic, plastic-friendly Synco Superlube[®] synthetic grease is included for refilling the stern tube. The brass motor-prop shaft coupling assembly uses an acetal plastic dogbone that has self-lubricating properties to minimize wear. The resin rudder is cast over a solid brass shaft. A DU-BROTM E/Z Connector is provided to attach the stainless steel pushrod to your servo .

Remember to turn on the transmitter first, then the duck's receiver. Consider mounting the switch on the duck's back so it will be easy to locate. Teach your child to turn off the duck before lifting it out of the water. Even a plastic prop can be hazardous to their little fingers.

Please read the instructions before installing your equipment. Use caution with the plastic bags and small parts if children are around. Read the labels of all adhesives, paints, and electronics purchased for this hull. Follow the safety warnings and guidelines included with your Battery, Charger, Speed Control, and Radio.

WARRANTY AND RETURN POLICY: Vac-U-Boat Hull Kits are usually sold direct from Vac-U-Boat. If you purchased this from a dealer, contact the dealer on any matter of return. If you open and inspect this kit and do not wish to keep it, return all of the parts to their bags and repack the kit into it's box along with a copy of the receipt. (Keep an original for your records.) Mail it to me via the United States Post Office, Parcel Post with "Delivery Confirmation". Please do not use any Express Mail carrier or send COD. I cannot be responsible for higher-than-necessary shipping costs. Upon receipt of the complete kit, I will reimburse you the original cost plus the cost of the return postage shown on the package and mail those funds to the name and address on the receipt copy. I will replace any defective part found during the assembly or operation of the boat for a period of three months after the purchase date. This warranty does not cover damage caused by abuse, misuse, improper spray paints, alteration or accident. It does not cover consequential damages. You may have other rights, which vary from state to state. **Caution: Never leave the duck in a hot car. It may soften and deform!**

Enjoy your Vac-U-Duck. Instructions begin on the next page. More information is at vac-u-boat.com.
If you have any questions, you can contact me at philpace@vac-u-boat.com. Phil Pace



WARNING:



CHOKING HAZARD - Small parts. Not for children under 3 years.

WARNING - To avoid danger of suffocation, keep plastic bags away from babies and children. Do not use in cribs, beds, carriages or play pens. **THESE PLASTIC BAGS ARE NOT TOYS.**

WARNING: Brass parts in this kit contain lead, a chemical known to the State of California to cause cancer and birth defects and other reproductive harm. Bronze and brass alloys can contain .03% to 3.7% lead.



This kit includes: One Duck, one Antenna Tube, and one Accessory Bag.

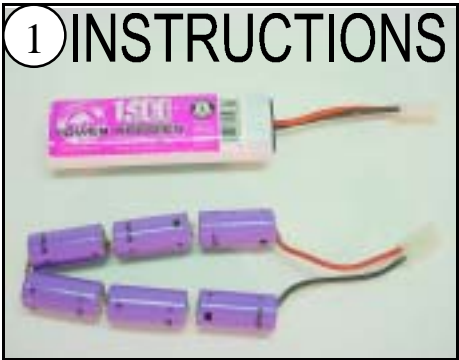


The Accessory Bag contains one EZ-Connector, one piece of Velcro®, two 1/6" hex wrenches and a tube of Super Lube.



To complete the Duck...

You will need a 2-Channel Radio w/ Std. Servo, an Electronic Speed Control (ESC), a 6 cell, 7.2 volt battery + charger.

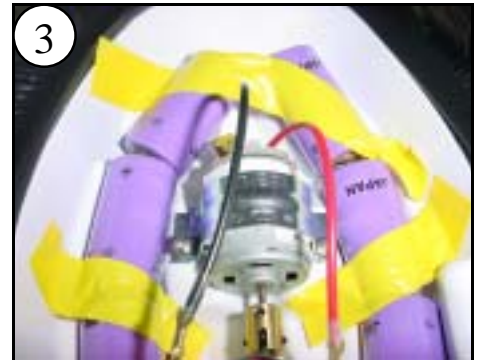


1 INSTRUCTIONS

Carefully remove the cover and tube on the battery pack. Caution! Do not short the exposed battery ends or tabs. Injury can result.



2 Set the battery into the front of the duck as shown.



3 Use electrical tape to secure it. To prevent electrical shorts, cover all of the exposed connections. (Do a better job than this!)



4 Remove the Servo Arm from the Servo. Don't lose track of the Servo Arm Screw.



5 If the servo has rubber isolators and brass grommets, install the top half only, as shown.



6 Install the Standard Servo into the two pre-drilled holes to the right of the Prop Shaft.



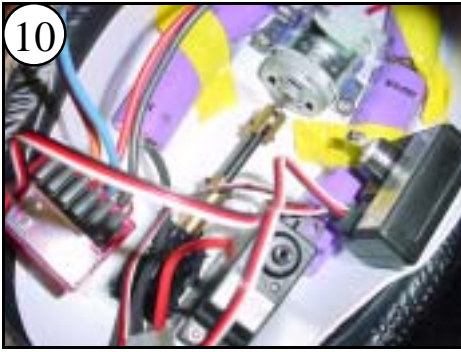
7 Install the hook side of the Radio Receiver's Velcro® above the shelf on the right side of the Duck.



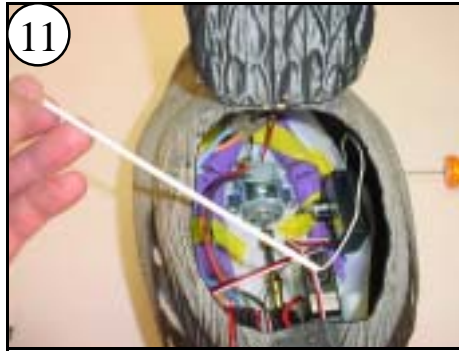
8 Install the hook side of the ESC's Velcro® on the flat shelf on the left rear of the inside of the duck.



9 Install the loop side of the Velcro® on the backs of the ESC and Receiver. Connect the motor to the ESC. Red wire is positive. Black wire is negative. Follow ESC instructions.



10 Plug the Steering Servo into the Receiver's ch. 1 slot and the ESC's plug into the ch. 2 slot. (Check radio's instructions.)



11 Insert the receiver's Antenna Wire into the Antenna Mast. Leave about 4 inches between the mast and the receiver as shown.



12 The mast will flex. Insert the end into the duck's neck. The other end (where the wire entered the mast) goes in the tail.



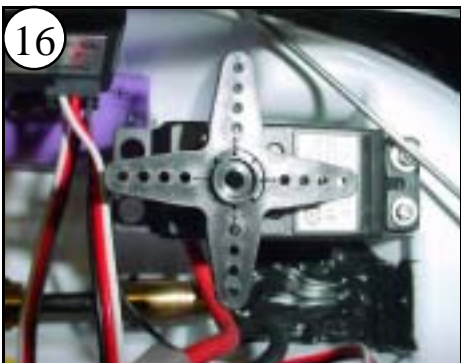
13 Center the Steering Stick in your 2-stick Transmitter. Center the Steering Trim below the stick as well.



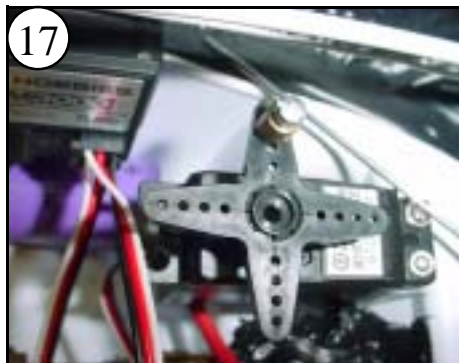
14 If you are using a pistol radio, center its steering trim as shown.



15 Unpack the EZ-Connector. Use only the left 3 pieces. The plastic keeper is removable. Use the plastic keeper.



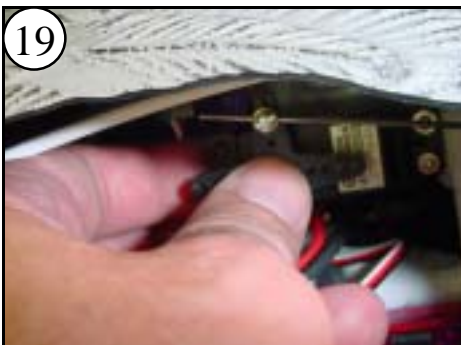
16 Turn on the Transmitter, then the Duck. The Servo will center itself. Position the servo arm onto the shaft until it looks like this.



17 Set the EZ-Connector in the third hole on the right side arm of the Servo as shown.



18 Lift out the Servo Arm and attach the EZ-Connector's plastic keeper as shown. It will "snap" into place.



19 Slide the Rudder Pushrod into the EZ-Connector. Set the Servo Arm onto the Servo Shaft in the same position as it was when you removed it.



20 With your finger under the Servo flange, use your thumb to press the Servo Arm onto the Servo. Do not tighten the EZ-Connector yet.



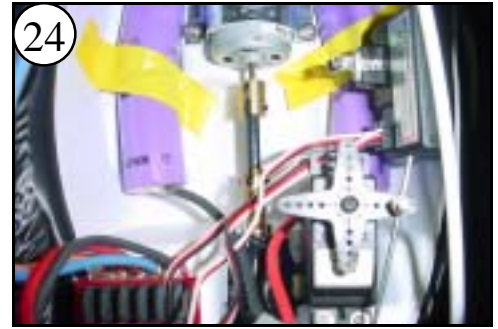
21 Align the Rudder to a straight-ahead position as shown.



22 The EZ-Connector is ready to be tightened. The Rudder Arm and the Servo Arm should be roughly parallel as shown.



23 With your fingers holding the Rudder Pushrod, tighten the EZ-Connector with a small flat screwdriver.



24 Gather the wires to the side. Be sure that no wires are touching the moving parts. (Motor Coupling and Servo Arm)



25 You can mount the on/off switch inside with Velcro® or cut mounting holes as shown and mount it outside.



26 Do an operational check of the completed duck to confirm that the direction the Prop spins and the turn of the Rudder match the input from the Radio Transmitter.



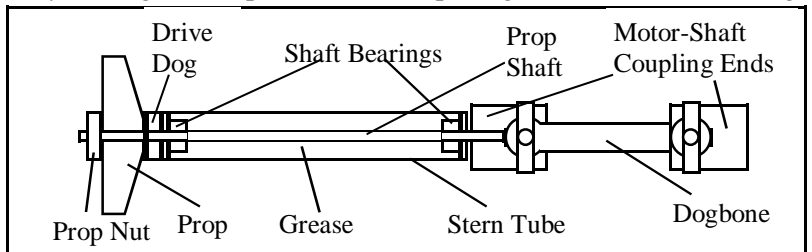
27 The lid of the duck may not fit flush to the body. If necessary, glue small tabs under the rear corners of the opening to align the lid. Roughen the plastic for best adhesion.

BALLAST: Depending on the weight of your ESC, the Duck may need a small weight added to the left side so it will float level in the water. A metal washer works well. Attach it with tape to the inside of the Duck.

FLOTATION: There is plenty of room in the front of the duck for flotation. An inflated Ziplock® bag with the opening pressed and taped closed, makes a nice form-fitting float.

REPAIR: In swimming pools, long hair can wind up on the prop shaft between the Drive Dog and the Stern Tube Bearing. If this happens, the shaft will bind and slow or stop turning. To repair, lightly grasp the Motor-Shaft Coupling End at the Stern Tube with a pair of pliers to block the shaft rotation. Use a 1/4 inch wrench to loosen the Prop Nut several turns. Unscrew the Prop & Drive Dog 3-4 turns by turning the Prop to widen the opening between the Drive Dog and the Stern Tube. Remove the hair and re-tighten the Prop with Drive Dog & install the Prop Nut.

MAINTENANCE: Before running: Check and clean between the Drive Dog and the Stern Tube Bearing. Place a droplet of light oil there, rotate the prop to distribute the oil, and wipe off the excess. **After running:** Disconnect and remove the battery. Tilt the duck toward the Bow and blot out any water



that was hiding under the floor. Leave the lid open for two days to allow any moisture to dry. If you are storing the duck for several months, discharge the 6 cell battery to 6 volts. Storing the battery discharged helps to prevent it from developing a “memory”. **Once every year or so:** Refill the Stern Tube with the Super Lube. To access and relube the Stern Tube, remove in this order: Rudder Arm, Rudder, Motor Mount, Dogbone, Motor-Shaft Coupling on the Prop Shaft. Slide out the Prop Shaft. Squirt new Stern Tube Grease into the Stern Tube from the outside. Catch the overflow with a napkin on the inside. Push the Prop Shaft into the Stern Tube catching the additional grease that will be pushed into the duck. Reassemble all parts. Install the first Coupling Set Screw onto the flat on the Prop Shaft. Be sure to properly space the Prop Shaft’s Coupling. Two pieces of copy paper should slip between the Drive Dog and the Stern Tube when the shaft’s Coupling End is properly spaced. This ensures that the shaft doesn’t bind. The Dog Bone should have some in-line play in it as well to ensure that the prop pushes the boat at the Drive Dog and doesn’t push against the motor. Visit vac-u-boat.com for maintenance photos.

Now go find some water and have fun!

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