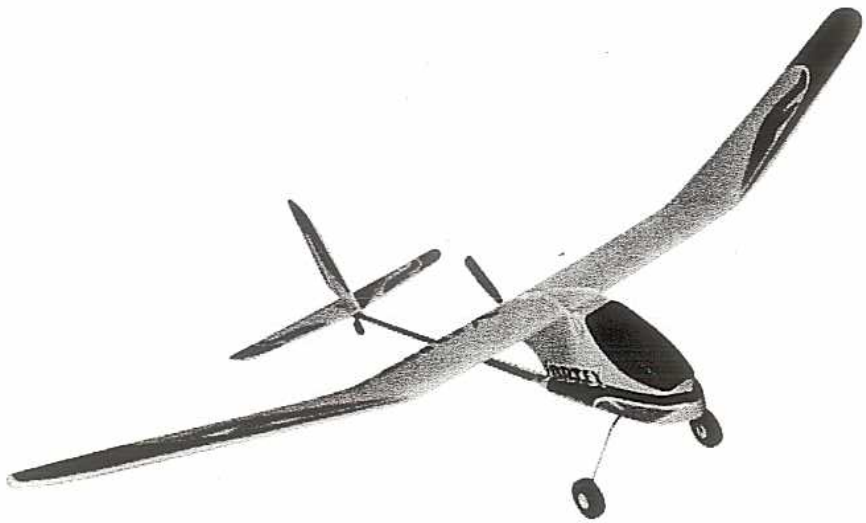
draganFLY
INNOVATIONS INC

INVENTING THE FUTURE OF RADIO CONTROLLED FLIGHT

VORTEX



CAUTION: ELECTRICALLY OPERATED PRODUCT:

NOT RECOMMENDED FOR CHILDREN UNDER 14 YEARS OF AGE.
AS WITH ALL ELECTRONIC PRODUCTS, PRECAUTIONS SHOULD
BE OBSERVED DURING HANDLING AND USE TO PREVENT
ELECTRIC SHOCK.

IMPORTANT

BEFORE ATTEMPTING TO OPERATE THIS FLYING DEVICE, ALL
PILOTS MUST CAREFULLY READ AND UNDERSTAND INSTRUCTIONS

Notes

Warning!

The Vortex airplane will likely be the most exciting R/C product you will own; however, it is not a toy. Improper or careless use of this radio may result in injury to you or others, or damage to property. Do not allow young children to play with the Vortex. Like any radio controlled product, radio interference, loose connections, or dead batteries can result in complete loss of control of the device.

It is the responsibility of the pilot flying the Vortex to operate it in such a manner, that in the event of a failure, no one will be injured, nor will any damage result to property. This is accomplished by flying far enough away from other persons such that the Vortex will likely crash before it can reach anyone or anything of value. Avoid people, buildings, power lines, highways, train tracks, vehicles, trees, water, pavement, gravel, any hard surface, or any object you don't want to crash into.

Keep spinning propeller away from your hair, head, and hands or injury may occur. Do not fly if the winds are strong.

A rechargeable battery powers the product you have purchased. The battery is recyclable, and should be recycled. Do not throw it in the garbage. Contact a local electronics store for more information.

Table Of Contents

Important Safety Information

The Vortex is designed for use by people over 14 years of age.

The instruction manual and video contain important information and must be kept.

Do not fly on dangerous grounds including areas where electrical hanging wire exist or at stair-wells.

Only use the NiMH battery pack supplied with this kit, or else your Vortex could be damaged.

Disconnect the battery after charging 3 hours or if the battery feels hot. Over charging will damage the batteries.

Unplug the NiMH battery pack when not in use.

This airplane must not be used if any damage has occurred to the electronics, wing, or fuselage that could cause the pilot to lose control.

Do not expose the Vortex to rain or moisture.

Do not fly if it is raining, lightning, snowing or there is more than a slight breeze.

Do not fly more than one Vortex on the same frequency simultaneously. Interference will cause a crash.

Keep face, eyes, fingers, etc. clear from propeller.

Do not fly in a crowded environment (near trees, people, pets, etc.)

To be used solely under the strict supervision of adults.

Precision balance – do not attempt to lift objects with the Vortex.

The Vortex is a high tech precision instrument and is vulnerable to misuse and abuse. Protecting all components is an essential part of flight maintenance.

Only use specified spare parts recommended by the manufacturer.

In the unfortunate event of a crash, visually inspect the wing, fuselage, and electronics.

Warning! Do not attempt to fly before replacing damaged parts. Injury and damage to property may result.

Troubleshooting

PROBLEM	SOLUTION
The motor is not working.	• Ensure that the motor is connected to the speed controller. • Charge Vortex battery pack fully. • Ensure propeller spins freely.
No response from Vortex	• Charge Vortex battery pack fully • Check battery pack connection • Charge transmitter battery pack fully. • Ensure that the transmitter throttle stick is in the low position before arming.
Low flight times.	• Charge Vortex battery pack fully.
The Vortex disarms itself	• Charge Vortex battery pack fully. • Ensure propeller spins freely.
The Vortex's motor and /or servos glitch	• Charge Vortex transmitter pack fully. • Ensure transmitter antenna is fully extended. • Test away from power lines and fluorescent lights.

Vortex Parts List

Description	Price
Propeller	4.95
Motor	12.95
Landing Gear Set	5.95
Tail Set (horizontal and vertical)	13.90
Empty Fuselage	19.95
Main Wing	10.95
Tail Boom	4.95
Wall Charger	8.95
6.0V 600 mAh Battery Pack	14.95

Vortex Accessory Bundle - **40%** discount! (wing, tail set, battery, boom): **$29.95**

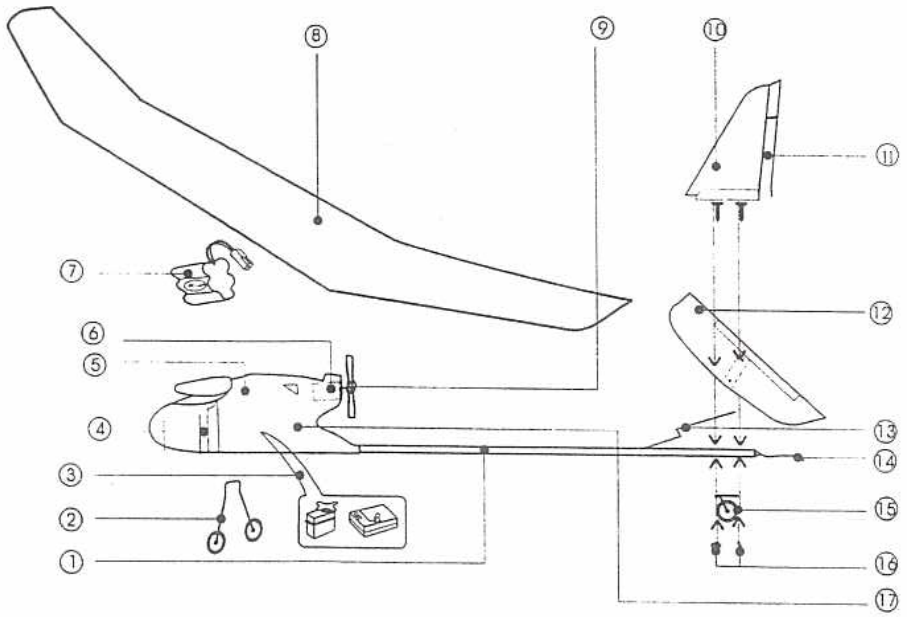
All prices are in US funds.

Shipping is $4.95 on all parts by airmail. If batteries (more than one) and/or wing(s) are ordered, shipping is $11.95 by airmail. Shipping by Airborne Ground is $15.95. 1 - 3 day DHL shipping is available for $19.95 as well.

Call us at 306-955-9907 to place an order (the Accessory Bundles can be ordered on our website).

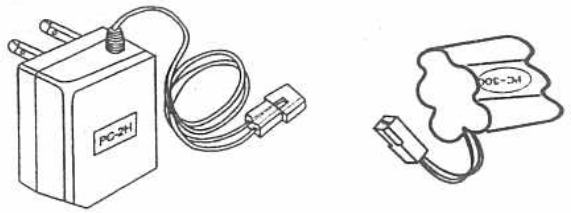
Component List

Part #	Description
1.	Sticker
2.	Front landing gear
3.	Servo & Receiver
4.	Foam to secure battery
5.	Start switch
6.	Motor
7.	NIMH battery
8.	Main wing
9.	Propeller
10.	Vertical fin
11.	Rudder horn
12.	Horizontal stabilizer
13.	Rudder rod
14.	Receiver
15.	Rear wheel
16.	Vertical fin nuts`
17.	Fuselage

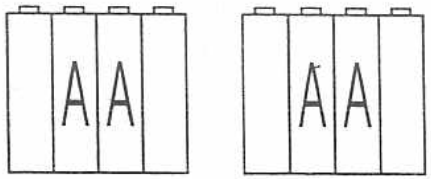


Vortex Assembly

Charge receiver battery by plugging battery into included wall charger. Do not charge the battery unattended. Battery charging always has some risk of fire - Do not set the battery on a flammable surface. Check the battery's temperature at least twice an hour. If at any point the battery is too



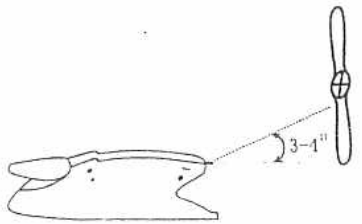
Insert eight (8) AA batteries into the transmitter. Turn on the transmitter. Both lights should be on. The batteries need replacing when the green light no longer lights up. If the light goes out while flying, you need to land promptly.



Connect the receiver battery to the connector in the airplane. Hold the red button (see #5 on componant list) down for 5 seconds. This initializes the Vortex's motor. Now, when you move the left stick on the transmitter upwards the motor should turn. Use the throttle trim tab to ensure that the motor is off when the throttle stick is in the center position. Moving the stick below this position should have no effect on the motor (it should stay off).

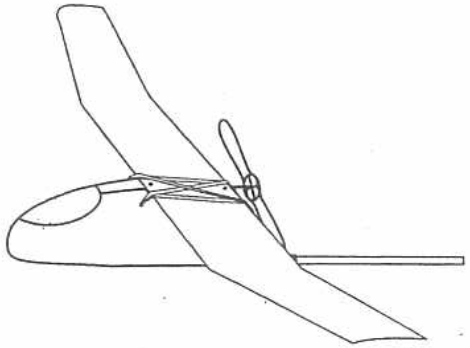
Connect the receiver battery to the connector in the airplane. To test the servo you do not need to initialize the motor. Move the right stick on the transmitter to the left and right. You should hear the servo inside the fuselage moving, and should see the metal control rod moving forwards and backwards. Center the right trim tab.

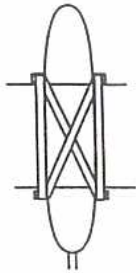
- Press the propeller onto the motor shaft as far as it will go (it is held on by friction). The propeller has a 3-4 degree angle from the neutral line of the fuselage.



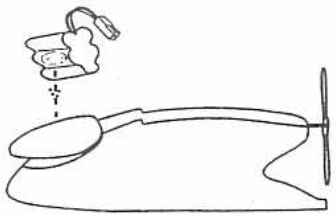
Vortex Assembly Cont' d

- Center the wing on the fuselage and use rubber bands to hold it in place.

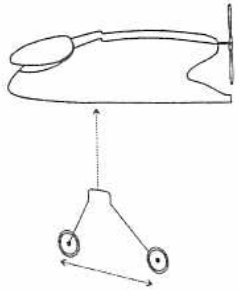




- Place the battery in the fuselage, but do not connect it until you are at the field and ready to fly.

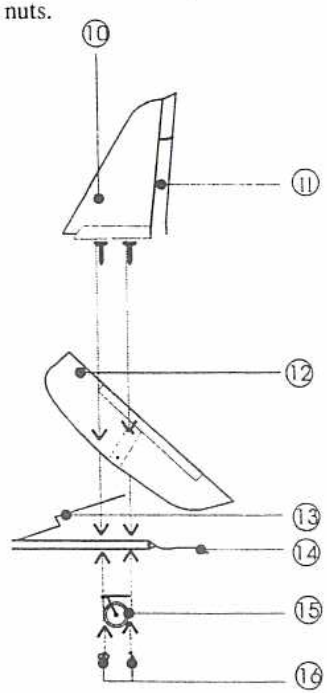


- Press the landing gear into the slot as far as it will go (it is held in by friction).



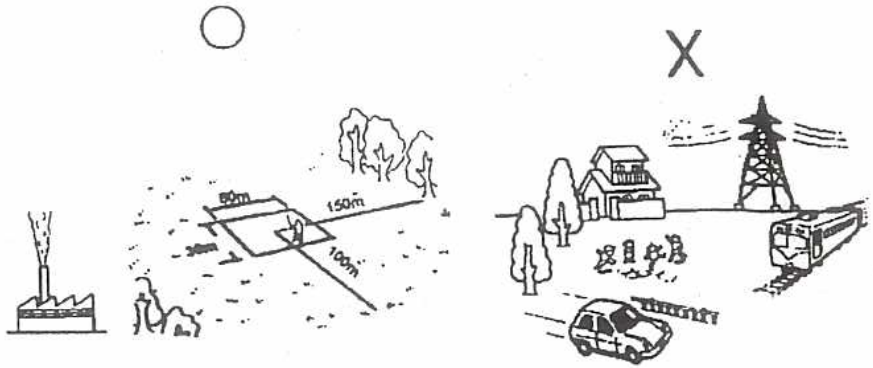
- Fit the metal control rod into the plastic arm as shown.

- Remove the nuts from the vertical fin's metal bolts. Push the bolts through the horizontal fin's per-drilled holes. Next, push the bolts through the fuselage's tail boom. Push the tail wheel onto the bolts. Finally, screw the nuts onto the bolts, securing the entire tail assembly. From top to bottom on the bolts you should have: vertical fin, horizontal fin, tail boom, tail wheel, nuts.

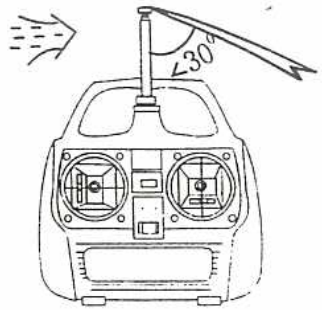


Preparing for First Flight

Choose a field to fly in. It must be devoid of obstacles, people, property, trees, and water. You will want at least 75 yards of completely open field, and more is preferable.

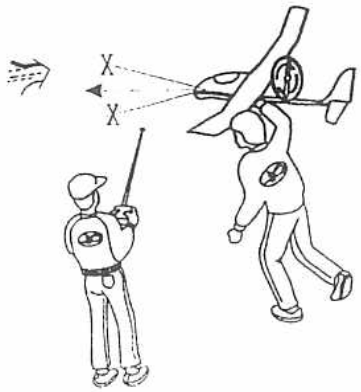


When picking a day to fly, your primary concern should be wind. First flights should be performed when there is almost no wind.



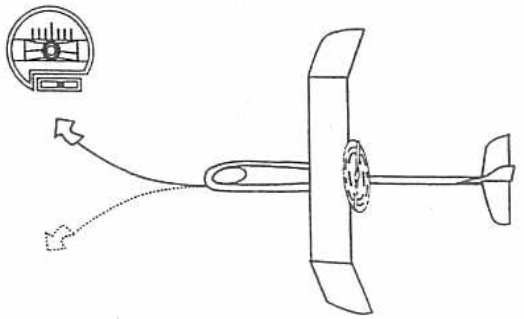
You have to be able to perform and react when the plane is in the air. Don't attempt your first flight until you know how to:

- **Hand launch:** Hold in medium throttle and push the Vortex away from you with medium strength in a flat line. Do not throw the Vortex! Do not push it upwards or downwards. A controlled, level with the ground push is best.



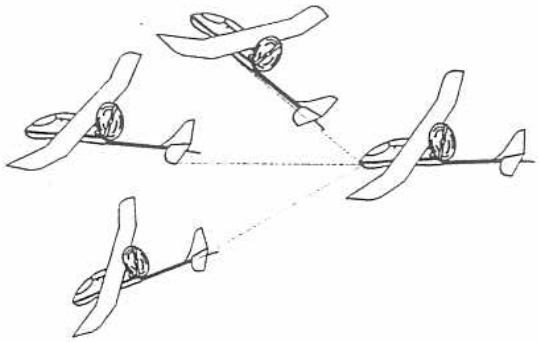
Preparing for First Flight Cont'd

Trim the Vortex: If the Vortex is always trying to turn left, move the right trim tab to the right, and vice versa.



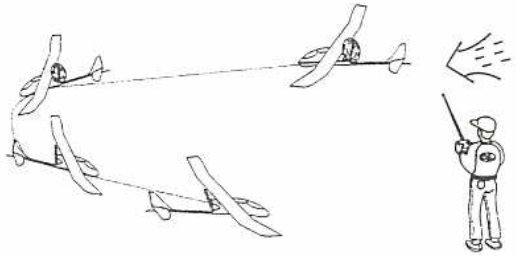
Turn the Vortex: Move the right stick to the left to make a left turn, and vice versa. You should be able to turn the Vortex by moving the right stick halfway to its limit. Too much stick movement will cause a crash.

Fly in a straight and level line: To do this the wings must be level and the throttle must be in the correct position on the transmitter. Use small movements with the right stick to hold the wings level, and experiment with the throttle stick to find out where it must be for level flight.



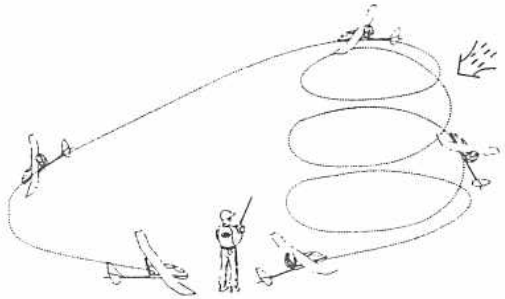
Gain altitude: Hold the wings level with the right stick and use full throttle.

Land: Hold the wings level and use a small amount of throttle to slowly lose altitude. A slow, gentle, and level-winged descent into the ground will result in the best landing.



If you think you are ready to do all of these things, you can learn to fly the Vortex.

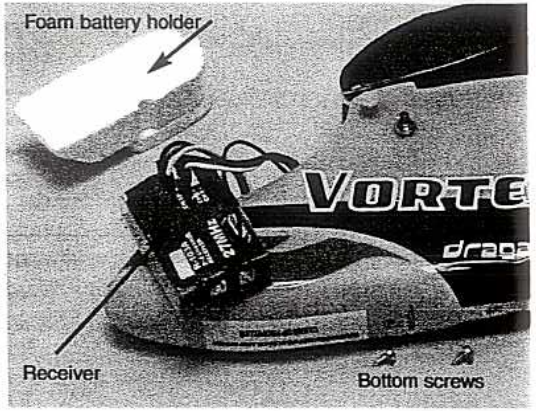
If you can do all of these things, you can fly the Vortex!



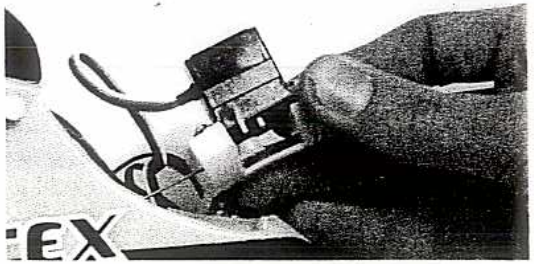
Servo and Tailboom Replacement

To remove and replace the servo, follow steps 1-8. To remove and replace the tail boom, follow steps 1-7 and 9-20.

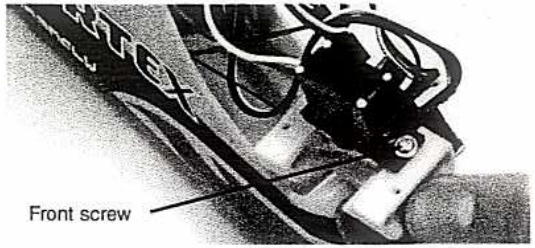
1. remove foam battery holder
2. remove two bottom screws
3. pry receiver off of side of fuselage with something long and flat (screwdriver, dull knife, popsicle stick), pull it out through the canopy, and stick to outside of fuselage to keep it out of the way.



4. Pull servo and servo mount out through the canopy.

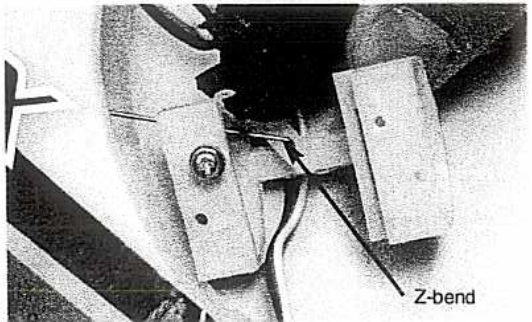


5. Take servo off of servo mount by removing just the front screw.



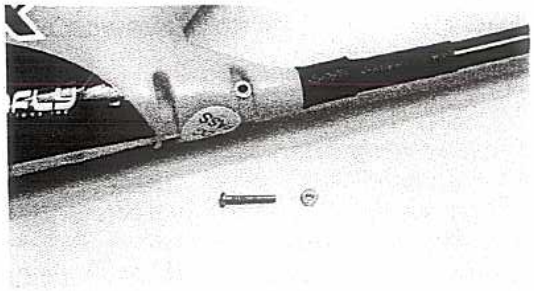
6. Maneuver servo off the metal control rod's Z-bend.

7. Disconnect servo from receiver
8. Replace servo, re-install following steps in reverse order.

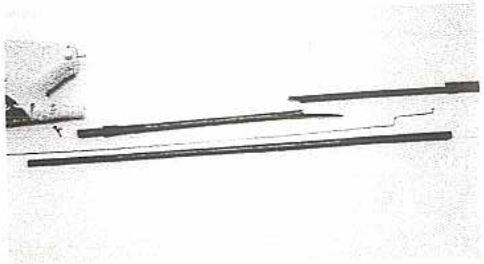


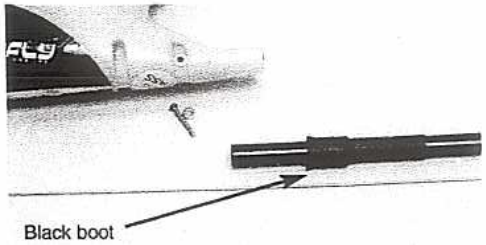
Servo and Tailboom Replacement Cont' d

9. Unscrew bolt holding in the tail boom at rear of fuselage.

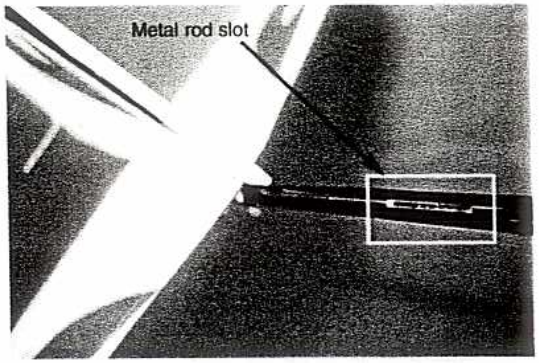


10. Pull out metal control rod through its slot in the rear of the tail boom.
11. Untie antenna where it sticks out of rear of tail boom, and pull antenna out the front of the fuselage.
12. Pull and twist tail boom out of fuselage. Note, the black boot is not attached to the fuselage, so you don't need to do anything to it. This step requires moderate force.

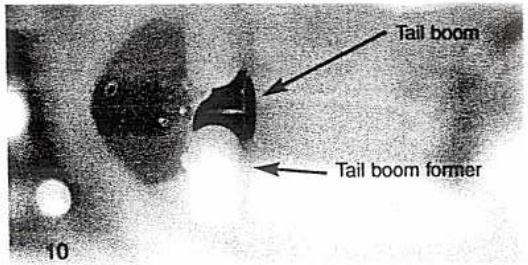




13. Temporarily put the vertical and horizontal fins on the new tail boom. Make sure the slot for the metal control rod is on the top side of the boom.

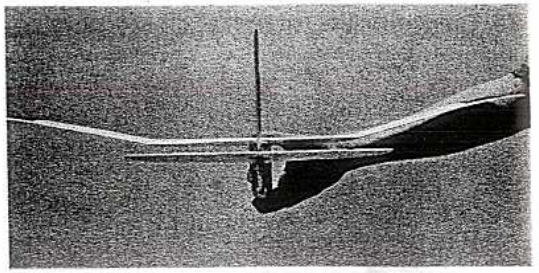


14. Push the new tail boom into the fuselage. The front of the tail boom should be flush with the tail boom former.

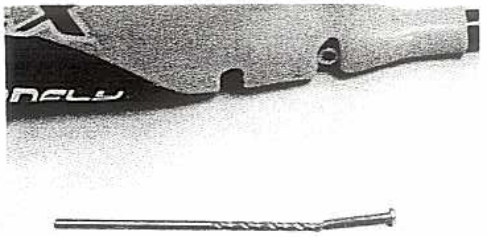


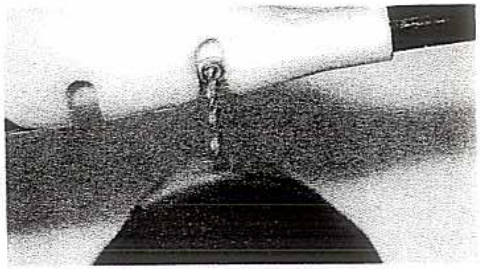
Servo and Tailboom Replacement Cont' d

15. Visually align the vertical fin with the fuselage, and the horizontal fin with the main wing.

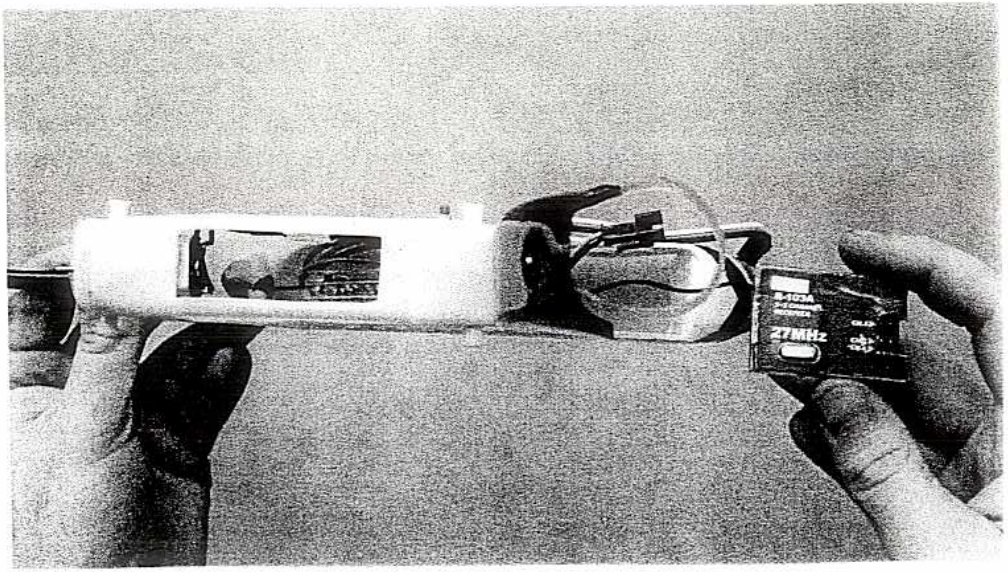


16. Drill a hole through the tail boom.



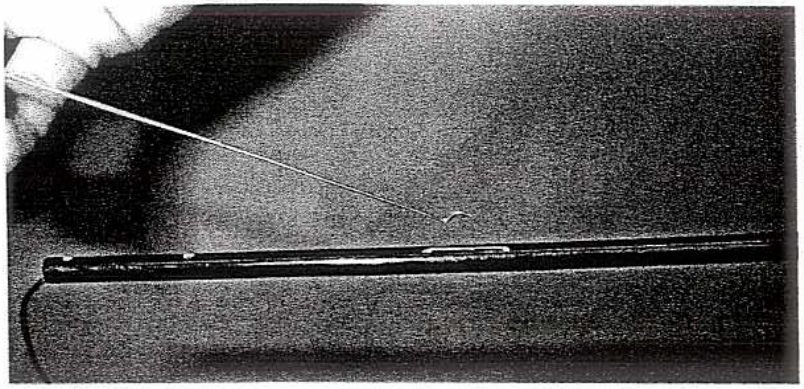


17. Remove the vertical and horizontal fin. Push the antenna through the tail boom (we recommend going through the canopy), and retie the knot. Tip: Hold plane by canopy, let tail boom hang straight down, straighten antenna as much as possible, and help gravity pull the antenna through by gently pushing.



Servo and Tailboom Replacement Cont' d

18. Push the control rod through the tail boom (tail boom slot first, so it exits into the fuselage).



19. Screw in the tail boom bolt.

20. Follow steps 1-7 in reverse order to re-assembly Vortex completely.

Notes