

Executive Summary

This month, I had one launch attempt of the MkI Viper rocket glider. I flipped the switch on the transmitter and no ignition. There was a short in one of the switches. This destroyed the receiver, two servos, and one switch. I had to order new parts. In the mean time, I continued with streamlining the MkI Viper and took some pictures of the assembly process.

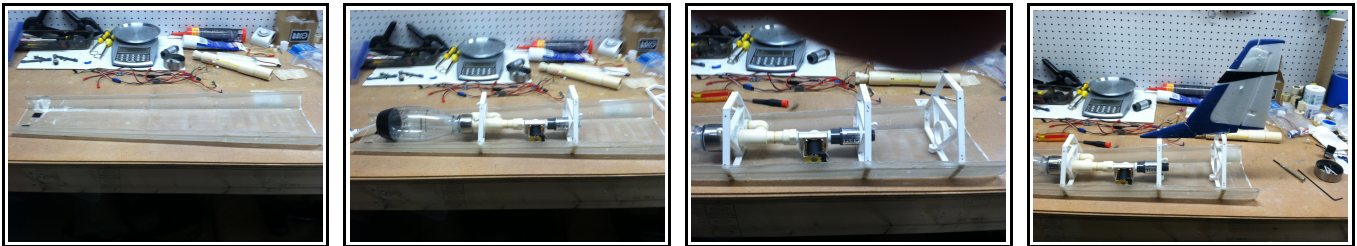
Technical Stuff

This month, I had one launch attempt of the MkI Viper rocket glider. The diagnostic were set, the HTP oxidizer was loaded, and the propellant tank pressurized to 140 psig. I flipped the switch on the transmitter and no ignition. This has not happened during a launch attempt. So, I had to devise a new emergency procedure. First, panic (lets get that out of the way). Second, assess. Third, react.

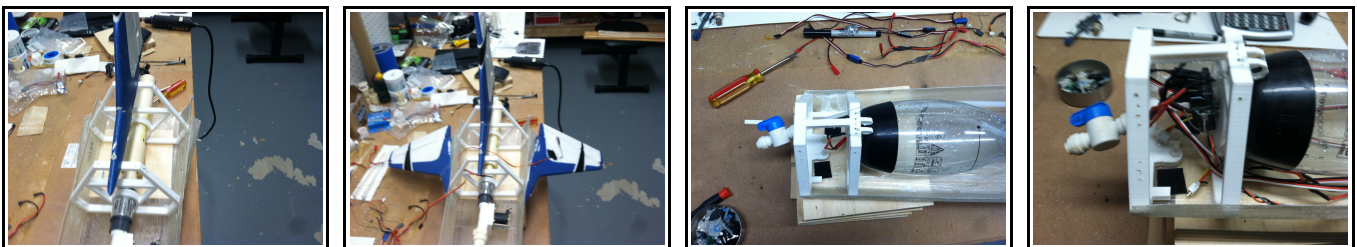
Make the Viper safe. Step one, cautiously approach the pressurized propellant tank, opened the valve, and released the pressure. Step two, removed the Viper from the launch rail. Step three, remove the starboard and port panels. Step four, hold the Viper in a vertical upside down position and unscrew the Soda Stream® bottle. Step five, fill the bottle with tap water and flush the system. The Viper is now made safe.

There was a short in one of the switches. This destroyed the receiver, two servos, and one switch. I ordered three new receivers. This delayed the next launch attempt into September.

So, over the rest of the month I worked on further streamlining the Viper. I fibreglassed a new nose cone and took pictures of the assembling process.



In the first picture, the bottom fuselage is laid out on the workbench. All fiberglass parts consist of three layers of 4 oz fiberglass. In the next picture, the Soda Stream® propellant tank, CPVC plumbing, 12 V DC solenoid, one way valve, and forward cockpit bulkheads are attached. In the third and fourth pictures, the aft bulkhead and vertical stabilizer are attached.



In the next two pictures, the rocket engine is installed and the port and starboard fin nacelles are attached. Then, the port and starboard fins are attached. Next, the forward bulkhead and equipment bay are attached. In the last picture, the receiver and wiring harness are installed.



In the last series of pictures, the paraglider, nose cone, canopy, and port and starboard panels are attached. In the last picture, there is a gap between the starboard panel and the canopy. So, I still have some more streamlining to do. But, it's getting there. Now, all she needs is a paint job. The MkI Viper is ready to launch. The mass without the HTP is $\sim 1,200$ gm and with 62.5 ml of HTP is $\sim 1,376$ gm. Note: I usually use only 50 ml of HTP. This leaves from 125 to 150 gm of mass available in a fully operational Class I Rocket Glider.