

Executive Summary

This month, I had two launch attempts of the MkI Viper rocket glider. On the first launch attempt, the Viper just barely cleared the rail guide and fell to the concrete floor. I had a massive leak at the propellant tank connection. In the second launch attempt, the Viper cleared the rail guide and made it to ~ 30 feet while yawing to port, a new record for Fisher Space Systems, LLC.

Technical Stuff

This month, I had two launch attempts of the MkI Viper rocket glider. Both launches used PLA fuel cores that were infused with KMnO_4 at the original concentration of 50 gm/L. This was the 5th infusion at this concentration. Ignition in both launch attempts was less than one second. The first launch attempt was a no go. I had a massive leak at the propellant tank connection. The Viper just barely cleared the rail guide and fell to the concrete floor. Damage to the Viper was minimum and easily repaired. I removed the propellant tank, applied some new pipe thread tape, and tightened the connection. The second launch attempt was more successful.

In the second launch attempt, the Viper cleared the rail guide and began to yaw to port ([video](#)). The Viper did one flip, crashed landed belly first, and continued under thrust to move up the hill. Damage to the Viper was minimal and easily repaired. During the launch, I had the flaps down to counter the Viper's tendency to pitch up. As can be seen in the video, the Viper did not pitch up, it yawed to port. Also, it appeared the Viper made it to ~ 30 feet. This was a new record for Fisher Space Systems, LLC.



Next month, I plan to continue launch operations with the MkI Viper. I will redistribute mass closer to the thrust vector. I will be prepared to apply right rudder to compensate for the yaw to port. Also, I plan to start testing a class II engine using a motorized ball valve.