

## X4 UAV Project On Hold

Written by Coyt Barringer

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The X4 UAV was flown several times and did achieve some Autonomous Flight! More videos of these flights may be posted later.

Unfortunately, during the last flight, X4 crashed and was damaged beyond repair. We believe the cause was a loss of signal between the on board RC receiver and the RC transmitter on the ground. If the signal is lost, the Autopilot system is supposed to land the plane safely, but instead, the Autopilot system floored the motor and drove the plane straight into the ground from a couple hundred feet. We are still unsure why the Autopilot behaved this way, but the crash was definitely due to the loss of the RC signal coupled with this weird Autopilot behavior. Ultimately, the force of the plane hitting the ground in this manner completely destroyed the airframe along with some of the electronic gear. One of the GPS chips on the Autopilot board literally broke off its solder joints and landed several feet away from the plane! I will mention that the GoPro DID SURVIVE! That little camera is awesome (as I said earlier, the video may be posted later)!

While the airframe was destroyed, The X4 UAV was in NO sense a disaster! The X-Labs team learned a ton about UAVs and flight in general. We made many friends through the project including the Zephyrhills Can-Am flyers who graciously let us use their flying field for crashing...oh I mean testing. Many of the UAV's electronics did survive and will be reused.

Several of the X-Labs members who spent long hours on the project are still a little shaken up by all the crashes, so that is the reason for the hold. As a club, we want to focus on a couple other projects such as the Big Tesla Coil and another High Altitude Balloon Flight as well. However, THE UAV WILL EVENTUALLY BE REBUILT! We have in no way given up on the project. The idea of having our own UAV is still as cool as it was the day we started, and maybe we will be able to pull it off now that we have some experience!

Please stay tuned for the return of the X4 UAV!

Here is a picture of the damage from the last flight (wings surprisingly survived but fuselage is

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