

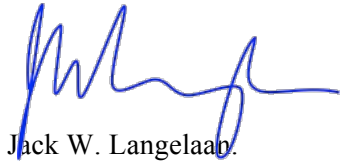


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Re: airworthiness certification of the Uglo 7

The Uglo 7 unmanned aircraft was designed as a testbed for trajectory following and wind field estimation research. The aircraft has a wingspan of 37.4 inches (3' 1.4") and maximum weight of 4.4lb. It consists of a 12.7 mm (0.5") thick Divinycell H80 foam wing with essentially an inverse Zimmermann planform, to which another 12.7 mm thick foam fin and fuselage has been bonded. It has an electric tractor motor in the nose, two elevons each controlled by one servo, a speed controller and a battery. To this has been added an autopilot, a small battery, a GPS antenna and a communications antenna. The Uglo 7 UAS will be flown in the same flight envelope as intended for the RC planes.

The Uglo 7 unmanned aircraft was certified airworthy using the procedure outlined in MIL-HDBK-516A as specified in Section 6.3.1 of AFS-400. Certification was performed by the Uglo 7 airworthiness certification team led by Jack W. Langelaan of Penn State University.



Jack W. Langelaan.