

Abstract

The purpose of this project is to find out what pitch is on a propeller and what it effects. The way this project was carried out was to use a model scale of everything and test the thrust and determine the different pitches and what they do. The hypothesis for this project is that a propeller with a low pitch at a low RPM would have the same amount of thrust as a propeller with lots of pitch at a high RPM. A thrust stand was used to measure the amount of thrust. First the test stand was set up on a table of some sort. Next a motor with equal Kv to torque ratio was fastened onto the thrust stand. Third the thrust stand was secured down to make sure that it would not move. A Lithium ion battery was plugged into the stand. Next a propeller was placed and secured to the motor. Then the motor was placed at 25, 50, 75, and 100 percent throttle and the data was recorded in grams of thrust. The results were not as expected, the propellers with the most thrust did the worst and the propellers with a middle amount of thrust did the best, leaving the propellers with the least amount of thrust in second place. The conclusion was that the longest propeller which was 12 inches long with a pitch of 6 did the best in every throttle percentage.