Abstract

The goals of this project are to design a low cost powered remote control combat airplane capable of outdoor flight, named the Aero EX and to develop a manufacturing plan to produce each unit at a selling price of $200, while operating at a 25 vehicle batch rate inside a 1,000 square foot facility. These goals are achieved using:

- Aerospace fundamentals to design the vehicle
- Design for Manufacturability to optimize the design for minimal use of labor
- Design for Assembly to give consumers the ability to build the vehicle without fixtures
- Pull production to eliminate scheduling and match customer demand

Few remote control airplanes currently available for purchase satisfy the combat market for outdoor powered flight. This project is unique because currently no remote control airplanes currently available for purchase can withstand the punishment of air to air combat in outdoor conditions at a price of $200.

The possibility of achieving the goal of this project is supported by the production of a flying prototype and an economic analysis of the total cost of production to determine the average number of vehicles sold per week to sell the Aero EX for $200. This project does not include aerodynamic optimization of the airframe design or the actual implementation and verification of the production plan.