Name(s)

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Project Number

S0328

Project Title

Efficiency of Swept Wings

Abstract

Objectives/Goals
The objective of this study is to learn what sweep of wing has the greatest lift to drag ratio.

Methods/Materials
3 different wings, a fuselage, a wind tunnel.

Results
Each of the wings was tested within the same wind tunnel and at the same wind speed. After testing both the lift and the drag multiple times on each, the forward swept wing finalized with the greatest lift to drag ratio.

Conclusions/Discussion
To within the accuracy of the measurements, the lift between the swept wings were the same while the straight wing had significantly less, while the drag was greatest with the reverse swept wing and least with the forward swept wing. I then concluded that the forward swept wing was the most efficient for it had the highest lift to drag ratio.

Summary Statement

I showed that the efficiency of a forward swept wing was greater than the other wings by use of a wind tunnel.

Help Received

A good friend of mine helped me build the wings, I was educated on the use of the school wind tunnel from my Pre-Engineering teacher, and I received help editing from my mother.