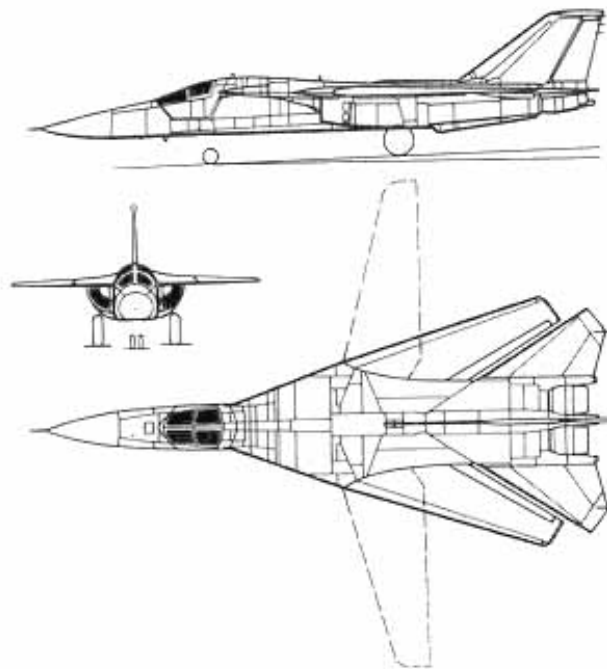


Design and Control Modeling of an Active Variable Geometry Wing

Final Report

Active Wing Technologies



Submitted to
Dr. Ronald O. Stearman, Professor
Department of Aerospace Engineering / Engineering Mechanics
The University of Texas at Austin
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Prepared by the Design Team at Active Wing Technologies:

David Fuentes

Naoki Sato

Basil Philip

Abstract

The design team at Active Wing Technologies has been working on building a wing-tail model for research in the study of Limited Cycle Oscillations (LCO), active controls, and increasing the maximum lift coefficient beyond the capability of conventional high lift devices. A wing-tail model that was used in studies of flutter suppression was the foundation of this project; it is the model that is presently in our possession. The current wing-tail model must be modified to include active control surfaces, digital control electronics, and a modern power supply. Implementation schemes of active control surfaces have been researched and plans to correlate the active control surfaces into the current wing-tail model are presented in this report. Furthermore, the functions of the outdated analog control system have been studied; the fundamental concepts were used to understand the modern analog control system. Finally, the investigations of new power systems that provide better frequency response and force output characteristics have been researched.

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