

UNIVERSITY OF NOTRE DAME
Department of Aerospace and Mechanical Engineering
AE 440: Flight Mechanics and Introduction to Design
Fall 1998

Project #6

Due: Friday, October 9, 1998

As an extension to the efforts in Project #5 you now wish to develop a take-off, transition and climbout digital simulation (planar rigid body without ground effect) for an autonomous take-off of this UAV. This will require you to select a "control scheme" for your aircraft.

Your project memo should include:

- a. Aircraft model development with FBD and all appropriate terminology for each flight phase
- b. Equations of motion for each flight phase
- c. Description of numerical method of solution for the system of differential equations which represent each flight phase
- d. Benchmark or validation studies. Graphical as well as tabular output which demonstrates the simulator performance would be desirable.