

AAA Basic Training Outline

November 2008

Introduction to AAA

- Program basics
- Flight Condition, units
- Help system and documentation
- Work Pad

Weight Sizing

- Mission Profile
- Take-off Weight
- Regression
- Sensitivity

Performance Sizing

- Stall Speed Sizing
- Take-off and Landing Distance Sizing
- Performance Matching Plot,
Wing Loading, Power Loading

Geometry Module

- Entering geometry
- Changing units
- Lateral tip-over
- Wing Fuel Volume

Aerodynamics I

- Class I Drag Polar
- L/D from weights
- Specifying aerodynamic characteristics for lifting surfaces
- High lift device sizing

Class I and Class II Weight & Balance

- Weight Fractions
- Inertias
- Center of Gravity
- Weight Iteration

Aerodynamics II

- Class II drag
 - Component Drag
 - Trendlines
 - Drag build up
- Moment
- Aerodynamic Center

Dynamic Pressure Ratio

Propulsion

Power Extraction

Inlet Design

Nozzle Design

Installed Data

Stability and Control

Derivatives

Longitudinal

Lateral-Directional

Control

Recalculate All

Analysis

Class I

Class II

Trim Diagram

Geometry

Tab Definitions

Dynamics

Transfer Functions

Flying Qualities

Control

Root locus

Bode Diagram

Loads

V-n diagram

Cost

AMPR Weight

RDTE Cost

Acquisition Cost

Operating Cost

Life Cycle Cost

Prototype Cost

Price Data

Final Question and Answer Session