

# TASS: A Toolkit for Aircraft Sizing and Synthesis

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## Abstract

A Toolkit for Aircraft Sizing and Synthesis (TASS), capable of performing sizing and synthesis calculations for conceptual design of aircraft is developed in Matlab [1]. TASS implements energy-based constraint and weight fraction approach for the mission sizing analyses. The performance of TASS is benchmarked against the known metrics of a transonic jet fighter aircraft F-86L Sabre (Sabrejet).

## 1 Introduction and Objectives

The purpose of this effort is to develop a toolkit in Matlab to perform sizing and synthesis of aircraft configurations at the level of conceptual design. The tool is named ASSIST.

that applies the concepts in prelimi of energy based constraint [2].

## References

- [1] MATLAB and Statistics Toolbox Release 2015a. *version 8.5.0 (R2015a)*. The MathWorks Inc., Natick, Massachusetts, 2015.
- [2] D. P. Raymer. *Aircraft Design: A Conceptual Approach*. American Institute of Aeronautics and Astronautics, Reston, VA, 3rd edition, 1999.