

# Design Analysis of an Aircraft Parachute Recovery System for Very Light Jets

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**Figure 1:** High Performance Mark II Viper Jet aircraft in flight.

## **Abstract:**

This paper describes the preliminary design process to develop an aircraft parachute recovery system for the Viper Jet aircraft, using a unique and innovative application of tried and proven rocket recovery system technology. The Viper Jet is a light weight, high performance, all carbon fiber aircraft with military jet performance. This high performance experimental jet is being used as a platform to design, integrate and flight test various parachute systems including a jet aircraft parachute recovery system. Parachute size, aircraft weight, flight speeds and opening loads of parachutes systems for very light jets are an order of magnitude above what has already been developed for fixed wing piston aircraft such as the C-152, C-172, C-182 and Cirrus aircraft. Design challenges addressed to configure a parachute system for this jet aircraft can be adapted and modified to other very light jets. This preliminary design analysis is used to fabricate, integrate and test an aircraft parachute recovery system for very light jets.