Aerodynamic Aids to Vehicle Stability

R. Bell

***Abstract*— Modern race cars utilize various aerodynamic devices to increase stability, and traction. There is a considerable body of information available to aid in the design process. However the flow of air in three dimensional space in close proximity to the ground is so complex that methods must be found to approximate the shape and size of the aerodynamic devices. Even these methods do not guarantee success, and ultimately trial and error must be employed for final tuning.**

A vehicle to attempt to capture the speed record for steam powered vehicles is being constructed and the experiences with applying theory, approximation, and testing will be discussed. The use of wind tunnel data to help refine the process has been employed and the advantages and shortcomings of this approach will also be discussed.

The author is with the Department of Computer Science, University of Texas at El Paso, El Paso, TX 79968, email rbell@cs.utep.edu.