

Motor Racing Aerodynamics in a Book

By Keith Hanna, *Fluent News*

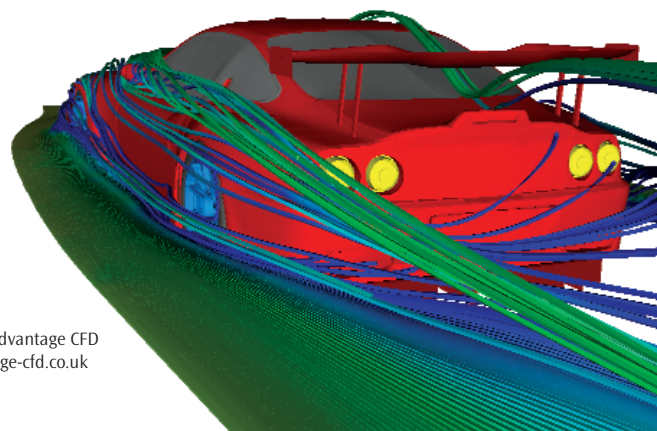
The landscape of competitive motor sports today covers racing from NASCAR to Touring Car, from Formula 1 to Le Mans 24 Hour, and everything in between. Motor racing has become a multibillion dollar industry globally and an entertainment staple of satellite and sports TV channels. In the United Kingdom alone it is estimated that motor sports contribute \$9 billion and 40,000 direct jobs to the country's economy. The UK's large motor racing industry includes a journalist community with a wide range of world class publications including technical magazines such as *RaceTech* and *Racecar Engineering*, from which comes the recently released book, **Competition Car Aerodynamics: A Practical Handbook**, by Simon McBeath (Haynes Publishing, 232pp, 2006, ISBN 1 84425 230 2). With this new book, McBeath, a freelance writer for *Racecar Engineering*, articulates for the lay person the nature of airflows inside and around race cars.

During the last 20 years, the motor racing industry has seen extensive aerodynamic development from the use of wind tunnels to CFD simulations. CFD is used to supplement wind tunnel studies and enables "virtual" wind tunnel testing to take place in a way never before possible, according to McBeath. The two tools combine to allow faster development times, and ever more realistic simulations of aerodynamics, all in a quest for incremental performance gains.

McBeath draws on the CFD expertise of Dr. Robert Lewis' well-respected Advantage CFD Group in the UK to vividly illustrate many aspects of race car aerodynamics.

A free CD with the book also provides copious animations and case studies to demonstrate many of the themes developed in the book. McBeath's easy-to-digest style and journalistic ability to communicate complicated technical subjects in a lucid manner shine through on every page, reflecting the fact that he is an enthusiast as well as a professional writer.

The book covers a wide range of motor sports, and provides a useful glossary of the many technical terms introduced. McBeath chooses a combination of photographs, line drawings, graphs, and CFD images to illustrate the text beautifully, while equations are used sparingly when appropriate. This book is a must read for gearheads the world over and anyone interested in understanding the many underlying aerodynamic scientific principles in motor sports, including the benefits that CFD provides. ■



Courtesy of Advantage CFD
www.advantage-cfd.co.uk