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Integrated Vehicle Health Management: Perspectives on an Emerging Field

By: *Ian K Jennions – Cranfield University*

Unique and groundbreaking—this highly-anticipated book addresses both basic and advanced concepts critical for the understanding and support of the developing field of Integrated Vehicle Health Management (IVHM).

From an initial idea by the SAE IVHM Steering Group, collaboratively written by experts from academia, research and industry, the thirteen chapters within this book represent the collective voice of the most qualified authorities in the field.

Highlights of the book include:

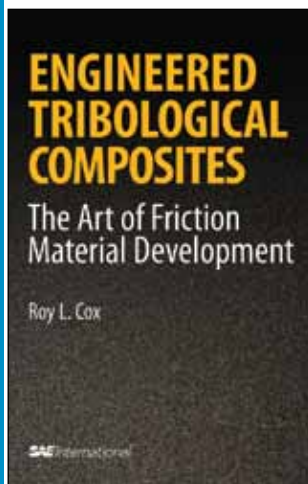
- a single definition and taxonomy of IVHM, as well as basic principles
- the identification of how and where IVHM should be implemented
- the commercial value of IVHM
- vehicle health management systems engineering
- algorithms and their impact on IVHM
- IVHM future directions and issues
- Case study on IHUMS

This book serves as the perfect introduction to IVHM for engineers, executives, academic instructors, and students.

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By: *Roy Cox*

Roy Cox provides readers with a thorough presentation of the topic, beginning with the earliest work on brakes by Frood in the early 1900s and friction studies by daVinci in the 1400s. From there, details about the processes of wear and the components of tribological systems are presented. Methods of manufacturing friction materials are described, and the elements of friction material are detailed—binders, fibers, abrasives, and lubricants.

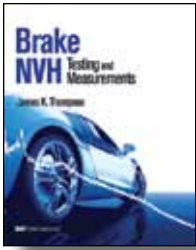
A large portion of the book delves deeply into materials for binders, resins, fibers, abrasives, lubricants, and fillers, providing background on the various materials, their pros and cons, and numerous ways they can be applied to friction systems. Much of this discussion focuses on the compositional makeup and effects of ingredients as they relate to the wear and friction performance of the final product.

Readers will gain a solid background about tribology, as well as a solid understanding of matrices, fibers and additives that make up engineered tribological composites. They will learn how manufacturing affects these composites, along with how friction and wear affect those materials. They will gain a better understanding of which materials provide the optimum balance of cost, friction and wear for various applications, enabling them to better create and apply engineered tribological composites for whatever application is at hand.

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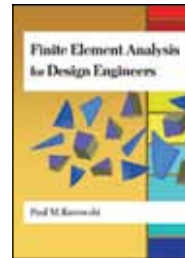
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William Cole - Aurora Flight Sciences Corp.;
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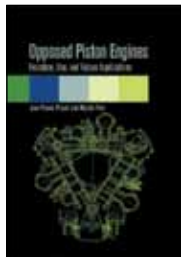
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By: Martin L.S. Flint; Jean-Pierre Pirault -
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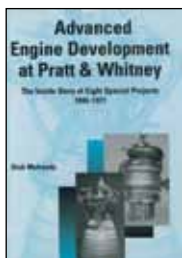
This book is an extensive survey of opposed piston (OP) engines from 1887 to 2006. The authors explore design and performance details of all major types of opposed piston engines in stationary, ground, marine, and aviation applications. Some performance and emission comparisons to 4-stroke engines are made, as is a case for reconsidering opposed piston engines for certain applications.

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By: Dick Mulready

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By: Mark Davies

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