Internal Combustion Engines: Applied Thermosciences, 3rd Edition

Colin R. Ferguson, Allan T. Kirkpatrick

E-Book	978-1-118-92652-9	July 2015	**CAD $119.99**
Hardcover	978-1-118-53331-4	June 2015	**CAD $149.75**

📖 DESCRIPTION

Fully updated third edition incorporating recent developments in engine modelling and analysis, combustion processes, fuels, and engine performance

Since the publication of the Second Edition in 2001, there have been considerable technical advances and developments in the field of internal combustion engines. These include more detailed engine thermodynamic performance modelling, increased importance of gaseous fuels, new combustion processes, and more stringent emissions requirements. There have also been changes in the instructional methodologies used in the applied thermal sciences that require inclusion in a new edition. These methodologies suggest that an increased focus on applications, examples, problem based learning, and computation will have a positive effect on learning of the material, both for the novice student and the practicing engineer.

This Third Edition mirrors its predecessor and has been expanded with two additional chapters, and new examples and homework problems throughout. All of the software now is 'open source', so that readers can see in detail how computational analysis and design of engines is performed. The new edition uses Matlab® software, which has become a default computational tool in most Mechanical Engineering programs, and gives detailed descriptions of the computational techniques employed.

• Provides students and engineers with the tools to apply the fundamental principles of thermodynamics, fluid mechanics, and heat transfer to internal combustion engines.

• Provides insight into how internal combustion engines are modelled and analysed.

• Enhances learning with the inclusion of Matlab® programs showing how to perform representative energy, fluid flow, combustion, and emission calculations.

• Examples and end-of-chapter problems are included throughout the text to illustrate and reinforce important concepts.

• The Appendix and companion website includes listings of the Matlab® computer programs, and detailed explanation of the numerical procedures used.

◢ ABOUT THE AUTHOR

Colin R. Ferguson was the author of the first edition of Internal Combustion Engines in 1986, and was listed on the 2001 second edition for continuity. He did not participate in the second edition, and for continuity was listed in the second edition as an affiliate faculty member in Mechanical Engineering at Colorado State University. He is listed in this third edition again for continuity.

Allan T Kirkpatrick is Professor of Mechanical Engineering at Colorado State University, USA.? He obtained his Ph. D in Mechanical Engineering in 1981 from Massachusetts Institute of Technology, and his current society memberships include American Society of Mechanical Engineers, and Society of Automotive Engineers (SAE). He is the author of numerous journals articles and conference proceedings, and is the co-author of Internal Combustion Engines, Second Edition (Wiley).

▐ RELATED RESOURCES

Student

View Student Companion Site

Instructor

View Instructor Companion Site

To purchase this product, please visit https://www.wiley.com/en-ca/9781118926529