FUNDAMENTALS OF INTERNAL COMBUSTION ENGINES

BIJAN KUMAR MANDAL
AMITAVA SARKAR
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Fundamentals of Internal Combustion Engines focuses on the gradual transition from the theoretical concepts of Engineering Thermodynamics to one of its applied counterparts – combustion engines. Accordingly, a few initial chapters have been devoted to recapitulation of thermodynamics principles while the rest are centered on the development of the subject proper. A blend of the classical knowledge and modern concept supported by ample experimental evidence, particularly in the field of combustion in SI and CI engines, is the crux of the book. Important areas like fuels, materials, equipment for engine performance measurement etc. have also been adequately addressed. Some aspects of gas turbine have also been discussed in brief.

Although this book is primarily written for the undergraduate students, post graduate students and the research scholars will also find it useful for better understanding of the key concepts in IC engines.

Salient Features

- Comprehensive discussion on modern fuel admission techniques and advanced ignition methods for SI engines
- A dedicated chapter on electronic control systems to explain the functioning of control mechanisms in engines.
- Includes chapters on gas motion and intake/exhaust processes to enhance understanding of fluid flow and heat transfer during engine operation.
- Detailed coverage of engine emissions and state-of-the-art mitigation techniques.
- A rich collection of solved and unsolved numerical problems included throughout the book to aid both conceptual clarity and practical application.

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ISBN 978-93-615-9584-4

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Size: 172x235mm Spine: 00mm ISBN: 0000000000000 Title ☐ Sub Title ☐ Edition ☐ Authors / Editors Name ☐ With CD ☐ Red Band ☐ Territory line ☐ URL ☐ Price ☐ mQuest ☐