DESCRIPTION

This book, together with its companion volume *Design Techniques for Engine Manifolds – Wave Action Methods for IC Engines*, reports the significant developments that have occurred over the last twenty years and shows how mature the calculation of one-dimensional flow has become. In particular, they show how the application of finite volume techniques results in more accurate simulations than the ‘traditional’ Method of Characteristics and gives the further benefit of more rapid and more robust calculations.

CONTENTS INCLUDE:

- Introduction
- Governing equations
- Numerical methods
- Future developments in modelling unsteady flows in engine manifolds
Simple boundaries at pipe ends

- Intra-pipe boundary conditions

- Turbocharging components

- The application of wave action methods to design and analysis of flow in engines.

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**ABOUT THE AUTHOR**

**Desmond Winterbone** graduated in Mechanical Engineering from Rugby College of Engineering Technology while undertaking a student apprenticeship with the Electric Co. Ltd, where he developed his interest in reciprocating engines. He obtained his PhD at the University of Bath and in that same year he joined UMIST.

**Richard Pearson** graduated in Mechanical Engineering from the University of Liverpool and then worked at Ricardo Consulting Engineers. He received his PhD in the area of computer simulation of internal combustion engines and then worked at UMIST in the Internal Combustion Engines Group.

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