AIR-COOLED MOTOR ENGINES

By Julius Mackerle, M. E.

Direct cooling by air is one of the most effective means for reducing engine weight besides securing many other advantages. Its use in certain vastly successful small cars is prompting a lot of new study of its possibilities. Yet until now a comprehensive reference book has been lacking and the facts have been scattered in technical journals in many countries.

The first part of Mr. Mackerle's timely work deals with fundamentals of heat transfer, and heat removal from finned cylinders in particular. Special attention is paid to cooling control and utilization of waste heat. The second part of the book goes into design details of individual parts of the engine, choice of parameters, and the general conception of the engine design. All conclusions are based upon the long and varied practical experience of the author, and represent a valuable guide for the solution of problems encountered by designers.

The first, theoretical, and the second, practical, parts are complemented by an exhaustive survey of air-cooled engines produced by leading manufacturers of all countries, and the copious illustrations and diagrams are an outstanding feature.

While this will be a precious aid for those actually working on engines of this type, it contains a vast amount of detail valuable to all designers and draughtsmen in the motor car, motor cycle and aero industries. As the only book of its kind on a topic of immense technical importance it will earn its shelf-space in any engineering library.

57s 6d net

THE AUTHOR

Julius Mackerle, born in 1909 in Moravia, Czechoslovakia, took his degree in mechanical engineering at the Technical University in Brno and followed a career as a designer of internal combustion engines successively with Škoda Works in Pilsen and Prague, Dr. Porsche in Stuttgart, and Tatra at Kopřivnice.

In 1948 he was nominated the head of the design department of the Tatra Works, a pioneer factory of air-cooled engines, who produced their first passenger car so equipped in 1923. His projects included both petrol and oil engines as well as passenger cars and trucks.

After ten years of fruitful activities as chief designer of Tatra engines and cars he has taken over the engine department at the Research Institute for Motor Vehicles in Prague. Here he devotes his lifetime's experience to the research problems and development of new engine types and prime-mover units, and other design problems, in close co-operation with the Czechoslovak motor car manufacturers.

Mr. Mackerle has published numerous articles in European technical journals, and his book on Valve Gears for Internal Combustion Engines reached three editions. **Air-cooled Motor Engines** has appeared in two Czech editions, and has been translated into English, Russian and Polish.