ROTARY ENGINE

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Mazda Rotary engine, License NSU-Wankel

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PREFACE

Nikolaus August Otto of Germany succeeded in making a practical internal combustion engine in 1876, and Gottlieb Daimler made an automobile utilizing an internal combustion engine in 1886. These were both the reciprocating type piston engines. Since then, the development of the internal combustion engine for automotive purposes has been remarkable. As a consequence, however, the history of the internal combustion engine mainly consisted of engines that possessed the reciprocating mechanism.

It is not appropriate to conclude, however, that the mechanism of the internal combustion engine must be of the reciprocating type solely because the early history of the internal combustion engine was primarily that of the reciprocating one.

As the matter of fact, there have been numerous challenges made, in the course of development of the internal combustion engine, to create practical rotary engines.

However, satisfying all the requirements for a practical internal combustion engine is not so simple as to be achieved by a mere casual idea and automotive applications demand still more rigorous requirements. This explains the reason why many efforts in the past for perfecting a practical rotary engine did not succeed.

There is solid background and good reason why the NSU-Wankel type rotary engine invented by Felix Wankel have become the only practical rotary engine. First, its principle is superior. Secondly, enormous and untiring efforts have been made to make it work.

No matter how innovative an invention may be, there is no invention that is absolutely perfect from the beginning. The case of the NSU-Wankel type rotary engine is one good example of untiring enthusiasm and effort having prevented an excellent invention from falling into oblivion.

The development history of the NSU-Wankel type rotary engine includes the improvement of the engine itself and the progress of its application. The number of years and the scale of research work devoted toward the rotary engine compared with that of the reciprocating engine, however, is still small. Accordingly, this book which introduces the actual circumstances of development of the rotary engine up to the present stage may touch merely part of the full potential of the NSU-Wankel type rotary engine.

We are very pleased that the rotary engine has by now established a firm position in the history of internal combustion engine. We will further continue to pursue the path of improvements and new discoveries.

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