A History of Linear Electric Motors

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A History of Linear Electric Motors

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Preface

The manuscript of this book was first prepared at the request of the Institution of Electrical Engineers in 1971. This coincided with a period of great activity in one particular aspect of linear motors, that of high-speed ground transport (HSGT) applications. It was a time when the Tracked Hovercraft project showed such great promise, when new inventions grew like mushrooms and hopes for a world-adopted British system ran high, only to be dashed by the Government's closure of the project in 1973 and demolition of the full-scale track in 1974. It was a time when personal emotions ran high.

The original draft contained a whole chapter on the rise and fall of Tracked Hovercraft, some of which was found unacceptable in that it might have given grounds for libel action. The whole manuscript was in fact revised to avoid giving any offence whatsoever. Meanwhile, new developments in HSGT were taking place in several countries from the USA to Japan and more papers were flooding in to swell the bibliography. By 1975 new papers on linear motors were appearing at the rate of between 14 and 16 per month and it was decided to close the bibliography at that date on the grounds of space and of the escalating task of cross-referencing to check that the bibliography after 1975 was complete.

Originally it had been intended to publish in 1983 with the final chapter bringing everything up to date, but the final manuscript was declined by the IEE's publishers in 1984 and a re-revision took place for the present publishers.

Some updating has been carried out on the last chapter in view of the time that has elapsed since the original target date for publication. Perhaps future historians may record that not until 1986 could the linear motor be said to have really become industrially accepted, for the author was invited to address the IEE in London on January 15, 1986 on the subject of 'Linear motors—a new species takes root', which was then to be published in *Electronics and Power*. In newspaper language and in the context of this book, this paper must surely be classed as 'Stop Press'!

Eric R. Laithwaite

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This work might never have been completed had it not been for the untiring efforts of my secretary, Miss Elizabeth Boden, who not only typed and re-typed the manuscript several times but corrected spelling and grammar and did a tremendous job on the bibliography in respect of accuracy and attention to detail. While neither of us pretends that it is now perfect, all I would say is that as the result of her efforts, 'It's a lot better than it was!'

I am also much indebted to Dr Brian Bowers of the Science Museum, South Kensington, firstly for help with research on the early days of the subject and the patents of Wheatstone in particular, and secondly for reading the whole manuscript and advising me on the production of a revised version that would offend no-one.

I am also grateful to the publishers for picking up the pieces when, at one time, all seemed a lost cause.

The diagrams were drawn by Mr E. Lawler.