

Textbook of Turning by P. F. Hercus

A small hard back book of 100 pages with B&W photographs and drawings, written in 1964 and this third edition in 1980.

On the first look, you find out that the author P. F. Hercus is the managing director of F. W. Hercus a machine tool manufacturer in Australia and the book is about the Hercus Lathe which would lead you to assume this was a P.R. exercise for their own products and not be of much use, but having read some of the 'Old Favourites' i.e. Sparey etc this turned out to be a surprising good little book.

The lathe featured is of the size many home machinists either have or aspire to get, so the information is quite meaningful. The book starts with the installation, and checking alignment with details of how to test and adjust. Following this each moveable part is covered with how to lubricate and remove play. A good explanation of cutting tools angles and grinding, with the consequences of poor tools followed by charts of cutting speeds, depths of cut etc for steel and cast with a chart to convert diameter and RPM to surface speed.

A section is devoted to measuring and measuring tools and gauges, centre-finding etc and nice to see it is centred around basic tools not top end metrology costing thousands. Another is about chucks, face-plates, turning between centres and mandrels.

Next is about drilling, reaming, deep holes again with charts on drilling speeds for various materials and diameters.

Turning tapers and boring is explained along with how to calculate the offset/taper. This is followed by an overview of a thread profile and the significant measurements then the techniques to cut those threads, and finally, how to measure, it even gives you the 'thread Wire' dimensions.

Next is miscellaneous operations that are taken for granted but rarely explained, using attachments, milling coolants etc.

Those essential facts needed that are usually hidden in Tubal Cain or Zeus, are included, gears are explained, hardening and tempering, Steel types and chemical composition are all included. This is followed by a set of practical exercises and numerous tables you are always referring to, drills, tapers SWG and threading drills.

All in all a must read for the one starting out, and a good refresher to those 'old hands' a surprising amount of information around the subject frequently missed in many books.

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Tony Ashgrove, April 2025

