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Safely Working with Benchtop Systems – Booklet I  
Featuring Sherline, UNIMAT, SIEG, Craftsman  
**Booklet 1 – Thread Cutting on a Lathe**  
4<sup>th</sup> Edition

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**Synopsis** Cutting threads on a metal lathe is described in detail, including curiosities such as cutting double start screws or left hand screws. The author focuses here on practical procedures and troubleshooting (tips & tricks) and shows how all of this can be done on a benchtop lathe. We have not seen this type of information presented as concisely as it is here anywhere else in a hobby type machining book. The descriptions focus on practical and doable procedures, but also include the engineering background.

In particular, details are provided for the thread cutting accessory of the popular Sherline metal lathe, giving a fair but critical and independent opinion about often pricy accessories. The author is a hobby machinist, as you probably are.

Other sections describe thread cutting on UNIMAT SL DB / 3 lathes, which are similar in design to Sherline. In addition, thread cutting on a vintage Craftsman lathe and on larger benchtop lathes are discussed in detail.

**Featured lathes models** There are probably 10,000 bicycle or car models on the market, but if you learned how to operate one of these, you can manage most other models. Same thing happens with thread cutting. Anyway, the following lathe models are specifically discussed in the book. I do focus on the Sherline and SIEG systems, however.

Featured lathe models:

- Sherline (long/short version)
- UNIMAT SL DB
- UNIMAT 3
- 3536 HiTorque 8.5x16 (“China lathe”)
- SIEG SC4 (“China lathe”)
- Rockwell
- Craftsman 109

**Author Bio** Uwe Burghaus, born in West Berlin, Germany, obtained his education in Physics and Physical Chemistry at the Free University of Berlin.\* He obtained a PhD in 1995, after conducting his graduate studies in surface science at the Fritz-Haber Institute of the Max Planck Society in Berlin. After postdoctoral positions in Genoa (Italy) and Santa Barbara (USA), he went back to Germany to complete a habilitation/tenure in Physical Chemistry. Now at North Dakota State University, he started to establish a surface chemistry group in 2003 and obtained tenure in 2009. His group is currently focusing on studies about nanostructured catalysts.

His hobbies include machining furniture from metal and glass. He is not a professional machinist by training. However, his hobby metal work developed into a small part-time business in 2012. LatheCity currently sells books about metal working, software tools, and accessories: everything that's fun to make and may find customers. The strength of the business is custom-designed tools.

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### Acknowledgement

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