



## AMERICAN WATCHMAKERS & CLOCKMAKERS INSTITUTE HARRISON, OHIO

### Watchmaker's Lathe I

#### The purpose

This course is to teach the student the necessary knowledge and hand-skills to measure and manufacture various parts in steel that will be functional in a mechanical watch.

#### Prerequisites

- Must read chapter 16, of *The Modern Watchmakers Lathe and How to Use It* by Archie Perkins, prior to attending the course.
- Duration of course: 5 days    8:00 a.m – 5:00 p.m. (M-Th)    Fri 8 - 3

#### Course objectives

More specifically the student will learn about:

- Measuring and measuring tools
- Using various formulae
- Determining the dimensions of missing part(s)
- Metallurgy
- Use of gravers, shapes and cutting geometry
- Sharpening gravers (H.S.S & Carbide)
- Heat treating, annealing, hardening, tempering
- Square filing methods
- Turning square shoulders and tapered surfaces
- Cutting threads on steel parts
- Other applications of the lathe as time permits

#### I. Essential materials for the student to bring along

For **all** AWCI courses, AWCI will provide cleaning machines and solutions. Hand-tools should be provided by the student. Lathes, staking tools, poising tools and truing calipers etc will be available, but students should provide their own wherever possible. Ownership of quality hand tools is an expectation of a **Professional Watchmaker**. The brand name Bergeon mentioned below is used to help you identify the tools from the most popular tool catalogs; you are welcome to choose a brand of your choice, as long as it is of equal or better quality.

Check with your supplier for recommended hand tools or their equivalents.

<h1 style="text-align: center;">Watchmaker's Lathe I</h1> <h2 style="text-align: center;">Tool list</h2>	
Description	Bergeon
1. Blades, for jeweler's saw (#4/0 or assortment) (fine, medium, coarse teeth)	
2. Buff stick leather 6.0 mm wide with plexi-cover #4056-6	1282-D 4056-6
3. Dust-blower (rubber)	5733
4. Emery sticks, set of different grades (extra fine, fine, medium, coarse)	6636
5. File, Hand style 6" long #2 cut	
6. File Handle	
7. Graver blank CARBIDE (1/16" thick or 1.58 mm) <a href="http://www.mscdirect.com">www.mscdirect.com</a>	MSC # 0412007
8. Gravers square Grobet –Swiss #36.194 or #4	
9. Gravers square Grobet –Swiss #36.198 or #8	
10. Graver handles ¼" x 3" wooden with metal collar	
11. Graver sharpening holder tool Cas-Ker item #361.880 or similar	
12. Knife for sharpening pegwood	6403
13. Loupe 3 X or 4 X It is not a bad idea to have one which attaches to safety glasses	
14. Loupe 10 X	
15. Machinist's apron or jacket	
16. Machinist's scale ( 6" small metal ruler in millimeters ) Stanley or General brand found at local hardware store	
17. Micrometer ( in millimeters) (.50 mm per 1 turn of tumbler) if possible small overall size is better Cas-Ker item # 350.277 or similar	
18. Vernier calipers in millimeters ( <b>quality</b> digital style preferred) approx. 6" in length	
19. Pithwood (circular wheels)	
20. Pegwood, Ø 3 mm Or Ø 4 mm	
21. Rodico or Rub-off	Rodico # 7033
22. Safety glasses	
23. Saw, jeweler's (4" depth of frame)	
24. Stone, India combination coarse and standard 6" x 2" x 1"	
25. Tweezers, brass AM ( x 1)	1064AM
26.	