



**AMERICAN WATCHMAKERS & CLOCKMAKERS INSTITUTE
HARRISON, OHIO**

21st Century Watchmaking Standards

(Also a preparatory course for the AWCI CW21 exam)

- The purpose of this course is to teach the student the fundamentals and tolerances associated with mechanical watch repair. The “Standard Operating Procedures” (SOP’s) used in modern watch repair will be discussed and implemented. Verification and analysis of the individual components of the movement will be assessed and corrected.
- This class provides the needed knowledge to ensure the correct methodology is being employed. It was designed for:
 - a. The experienced watchmaker who hasn’t updated their skill levels in the past 10 years or longer.
 - b. Highly recommended for those whom have never attended a formal watchmaking school. This class focuses on using corrected techniques that provide a solid foundation which can be built upon.
 - c. For those planning to take any future classes or Brand Specific Training as it helps develop the necessary skill sets to a better training experience.
- Prerequisites: Some basic understanding in manual wind watch function, knowledge of watch terminology, membership with AWCI, ownership of hand tools as per tool list. It would be of extreme benefit for the student to be familiar with some watch theory and also past experience in watch repair. Ownership of the books, *The Theory of Horology* and *The Watch Repairer’s Manual* are essential. **Must read, pages 33-44 *The Theory of Horology*, prior to attending the course.**
- Length of course: 5 days, Monday - Thursday 8:00 a.m. – 5:00 p.m. Friday 8 a.m. - 3 p.m.

More specifically, the student will learn about:

1. Overview of the nomenclature of the watch and its various components
2. Standard Operating Procedures concerning:
 - a. Tolerances and Corrections
 - b. Jewels and Endshakes
 - c. Proper Servicing of the Barrel
 - d. Basic theory & calculations
 - e. How to check the escapement
 - f. ETACHRON adjustment procedures
 - g. Proper use of the Horia Tool
 - h. Mainspring winding and tool selecting
3. Modern cleaning procedures including Pre-Cleaning
4. Disassembly & Assembly
5. Lubrication of movement & escapement
6. Timing adjustments and analysis
7. Dialing & casing
8. And More

Essential materials for the student to bring

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.

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Tool list

Description	Bergeon
1. Barrel Arbor Holder size 2.50 mm	30610 Diam. 2.50
2. Barrel closing tool	
3. Brush (small) or soft small dial brush	1300-6
4. Buff stick leather 6.0 mm wide with plexi-cover #4056-6	1282-D 4056-6
5. Casing cushion	5394
6. Cloth (lint-free) Selvyt or Micro-fiber	
7. Dial plastic protection	6938
8. Dust-blower (rubber)	5733
9. ETACHRON regulator adjusting tool & removing tool #015595 & # 015600	6918 6919
10. File, Hand style 6" long #2 cut or #4 cut	
11. File Handle	
12. Finger cots	
13. Hands fitting tool (hand press or manual pushers)	7404
14. Knife with case opener	6403
15. Lever for hands (2.5 – 5.0 mm in width or similar)	30018
16. Loupe 4x or 5x	
17. Loupe 10X for high inspection	
18. Movement holder (Slick/Bergeon/Horotec) (large)	4040
19. Movement holder – dial side	5914 / 1612
20. Oilers (plastic handle, spade tipped) small sizes Bergeon only (7013 preferred)	7013 or 30102
21. Oil cups, die-cast alloy, 4 separate cups (or more)	30180-A
22. Oiler (automatic No. 1A) Optional	2718-1A
23. Pegwood, Ø 3 mm or Ø 4 mm	
24. Pithwood (circular wheels)	
25. Pithwood sticks (assorted sizes)	
26. Plexi-stick (clear style only)	6436
27. Presto for removing hands, tool No. 1	30636-1
28. Rodico or Rub-off	Rodico #7033
29. Screwdrivers, with stand (Bergeon, Horotec, Vaucher, etc.)	
30. Tweezers, antimagnetic, No. 00 (for cap jewels)	
31. Tweezers, Brass or Bronze	1064AM
32. Tweezers, antimagnetic, No. 5	6671-5
33. Tweezers, antimagnetic, No. 3	6671-3
34. Tweezers for hands, type F (Fontax or Horotec) polished steel tips Horotec 12.301-F1 or 12.302-F1	
35. Watch paper	