



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

Modern Automatic Watches

(Also a preparatory course for the AWCI CW21 exam)

- **The purpose** of this course is to teach the student all the fundamentals of modern mechanical automatic watch repair that are most prevalent on today's market. The student will learn how to perform the various diagnostics in evaluating the condition of the various components, cleaning, assembling, adjustments, dialing and casing.
- **Prerequisites:** Having at least three (3) years in mechanical watch repair, or having participated in the AWCI **Basic Watch Repair** course as well as having the tools mentioned below.
- Reading pages 169-188 of the book *The Theory of Horology* is essential prior to attending the course.
- Length of course: 40 hours in 5 days, (9:00 a.m. – 5:00 p.m.)

More specifically, the student will learn about:

- The most common differences between manual wind and automatic watches
- Detailed discussion of all components
- Endshakes and tolerances
- Servicing, including up-to-date methods of barrel set-up.
- Practical, theory & math exercises
- Advanced cleaning procedures including pre-cleaning
- New methods of lubricating modern movements including escapement
- Proper use of "Epilame"
- Etachron adjustment procedure
- Timing adjustments and analysis

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 the recommended hand tools or their equivalents.

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TOOL LIST

Description	Bergeon
1. Barrel Arbor Holder size 1.00 mm	30610 Diam. 1.00
2. Barrel Arbor Holder size 1.50 mm	30610 Diam. 1.50
3. Barrel closing tool	
4. Baskets 5 thimble type (with screw-top cover preferred) (for cap jewels etc) Bergeon # 4735 or #4734 or Vibrograf #17131 (or similar of quality)	2703 I
5. Basket, special plastic snap together Vibrograf #17134	
6. Benzene glass jar (small) Ø 80 mm (or smaller)	30514-080
7. Brush (small) or soft small dial brush	1300-6
8. Buff stick leather 6.0 mm wide with plexi-cover # 4056-6	1282-D 4056-6
9. Brush, 3 rows, No. 4	1103-4
10. Casing cushion	5394
11. Cloth (lint-free) Selvyt or micro-fiber	
12. Dial plastic protection	6938
13. Dust-blower (rubber)	5733
14. ETACHRON regulator adjusting tool & removing tool #015595 & # 015600	6918 6919
15. File, Hand style 6" long # 2 cut or # 4 cut	
16. File Handle	
17. Finger-cots	
18. Hands fitting tool (hand press or manual pushers)	7404
19. Knife with case opener	6403
20. Lever for hands (2.5 – 5.0 mm in width or similar)	30018
21. Loupe 3X or 4X	
22. Loupe 10X	
23. Lubricant, Moebius Synt-A-Lube # 9010	
24. Lubricant, Moebius HP 1300	
25. Lubricant, Moebius Pallet fork grease # 9415	
26. Lubricant, Moebius grease # 9501	
27. Lubricant, Fomblin gasket sealing grease	
28. Lubricant, Klueber P125 Chronogrease (Braking Grease)	
29. Movement holder (Slick/Bergeon/Horotec) (large)	4040
30. Movement holder – dial side with center support for hand installation	1996 / 1112
31. Oilers (plastic handle, spade tipped) small sizes Bergeon only (7013 preferred)	7013 or 30102
32. Oil cups, die-cast alloy, 4 separate cups (or more)	30180-A
33. Oiler (automatic No. 1A)	2718-1A
34. Parts tray (5 small & 1 large compartments with lid) Swiss 9 5/8" x 4 1/2" x 3/4"	
35. Pegwood, Ø 3 mm Or Ø 4 mm	
36. Pithwood (circular wheels)	

37. Pithwood sticks (assorted sizes)	
38. Plexi-stick (clear style only)	6436
39. Presto for removing hands, tool No. 1 (polish the outer jaw surfaces to a mirror sheen)	30636-1
40. Rodico or Rub-off	Rodico # 7033
41. Screwdrivers, with stand, e.g. Bergeon, Horotec, Vaucher, etc.	
42. Screwdriver sharpener	2461
43. Stone, India combination coarse and standard 6" x 2" x 1"	
44. Tray (with Plexiglass bell)	30097BC
45. Tweezers, antimagnetic, No. 00 (for cap jewels)	
46. Tweezers, brass AM (x 1)	1064AM
47. Tweezers, antimagnetic, No. 5	6671-5
48. Tweezers, antimagnetic, No. 3	6671-3
49. Tweezers for hands, type F (Fontax or Horotec) polished steel tips Horotec 12.301-F1 or 12.302-F1	
50. Watch paper	
51. Ziploc bags 2" x 2" (clear) approx 10	