



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

Introduction to Basic Quartz Watch & Quartz Chronograph Repair

(Also a preparatory course for the AWCI CW21 exam)

- **The purpose** of this course is to teach the student all the fundamentals of modern basic quartz watch repair and quartz chronographs that are most prevalent on today's market. The student will learn how to perform the various important electronic tests e.g. current consumption, coil resistance, lower working voltage, fault finding etc.
- **Prerequisites:**
 - Some basic understanding in electronic watch functions,
 - Knowledge of watch terminology.
 - Membership with AWCI
 - Ownership of the book *The Theory of Horology* is essential. Must read, chapter 15 of *The Theory of Horology*, prior to attending the course.
 - It would be of extreme benefit for the student to be familiar with some watch theory and also previous experience in watch repair (e.g. AWCI Basic Watch Repair Course, Modern Automatic Watches, etc).
- Swiss calibers covered include ETA 955.112 & ETA 251.262
- Length of course: 40 hours in 5 days, (9:00 a.m. – 5:00 p.m.)

More specifically, the student will learn about:

- Brief historical background of quartz watches
- Discussion of all the components in detail and their purpose
- Measurement points for analog quartz watches
- Modern cleaning procedures
- Modern lubricants - as it applies to 21st century watchmaking
- Servicing of both movements
- Testing parameters with the Witschi Q-Test 6000
- Troubleshooting quartz watches with the Witschi Q-Test 6000

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 the recommended hand tools or their equivalents.

Introduction to Basic Quartz Watch & Quartz Chronograph Repair

TOOL LIST

Description	Bergeon
1. Baskets <u>5</u> thimble type (with screw-top cover preferred) (for cap jewels, etc.) Bergeon # 4735 or # 4734 or Vibrograf #17131 (or similar of quality)	2703 I
2. Benzene glass jar (small) Ø 80 mm (or smaller)	30514-080
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. Brush, 3 rows, No. 4	1103-4
6. Casing cushion	5394
7. Cloth (lint-free) Selvyt or Micro-fiber	
8. Dial plastic protection	6938
9. Dust-blower (rubber)	5733
10. File, Hand style 6" long #2 cut or #4cut	
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 3X or 4X	
17. Loupe 10X	
18. Lubricant, Moebius Quartz oil #9000	
19. Lubricant, Moebius grease #9501	
20. Lubricant, Fomblin gasket sealing grease	
21. Movement holder – dial side with center support for hand installation	1996 / 1112
22. Movement holder (Slick/Bergeon/Horotec) (large)	4040
23. Oilers (plastic handle, spade tipped) small sizes Bergeon only (7013 preferred)	7013 or 30102
24. Oil cups, die-cast alloy, 4 separate cups (or more)	30180-A
25. Parts tray (5 small & 1 large compartments with lid) Swiss 9 5/8" x 4½" x ¾"	
26. Pegwood, Ø 3 mm or Ø 4 mm	
27. Pin vise with two chucks, (0 – 3.2 mm capacity, round hole opening)	5860
28. Pithwood (circular wheels)	
29. Pithwood sticks (assorted sizes)	
30. Plexi-stick (clear style only)	6436
31. Presto tool No 1 (for removing hands) (polish the outer jaw surfaces to a mirror sheen)	30636-1
32. Rodico or Rub-off	Rodico # 7033
33. Screwdrivers, with stand, e.g. Bergeon, Horotec, Vaucher, etc.	
34. Screwdriver sharpener	2461
35. Stem cutting pliers (end cutter type preferred)	
36. Stone, India combination course and standard 6" x 2" x 1"	
37. Tray (with Plexiglass bell)	30097BC

38. Tweezers, brass AM (x 1)	1064AM
39. Tweezers, antimagnetic, No. 3	6671-3
40. Tweezers for hands, type F (Fontax or Horotec) polished steel tips Horotec 12.301-F1 or 12.302-F1	
41. Watch paper	
42. Ziploc bags 2" x 2" (clear) approx 10	