

Timing of Precision Timepieces

(Also a support course for the AWCi CW21 exam)

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Technical Instructor

Rolex USA - Dallas

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AWCI Training Center - Harrison, Ohio

Purpose

The purpose of this course is to teach the fundamentals of timing mechanical precision watches. Topics covered will include key terms, COSC tolerances, influences on timing, dynamic poising, timing analysis, balance staff replacement on Rolex caliber 1570, adjustment of the ETACHRON regulator system.

Prerequisites

1. Membership with AWCi
2. Minimum 3 years full-time experience in watch repair (and/or) having attended the following AWCi Courses:
 - Basic Watch Repair and/or
 - Automatic Watch Repair
3. Knowledge of watch escapement
4. Knowledge of the oscillator unit
5. Ownership of hand tools as per tool list below
6. Ownership of the following books (available from AWCi)
 - *The Theory of Horology*
 - *The Watch Repairer's Manual*
7. Must read pages 99-166 of *The Theory of Horology* prior to attending

Length of Course

24 hours (9:00 am to 5:00 pm), 3 days, Monday - Wednesday

Cost

\$435.00 - AWCi Members

More specifically, the student will learn about

1. Key nomenclature of escapement and regulator parts
2. Types of balance wheels and hairsprings
3. Verification and diagnosis of the Swiss lever escapement
4. Balance staffing

5. Adjustment and truing of the balance wheel and the hairspring
6. Adjustment of the ETACHRON regulator system
7. Definition of key functions of the Swiss lever escapement
8. Influences on timing
9. Epilame application and escapement lubrication
10. Overview of the official Swiss chronometer certification (COSC) procedure and its tolerances
11. Static and dynamic poising
12. Timing analysis and adjustments

Essential Materials for the Student to Bring

This course is held at the AWCI Training Center in a modern, professional workshop. All major equipment, like timing machines, are on hand. However, specific tools for this course must be provided by the student. Ownership of quality hand tools is expected.

Tool List

1. Casing cushion
2. Dip oiler
3. Dust blower (rubber)
4. Finger cots
5. Hammer
6. Leather buff stick with protector
7. Loupe 10x
8. Loupe 3x – 5x
9. Lubricant, Moebius grease 9415
10. Micro fiber cloth
11. Parts tray with cover
12. Pegwood, Ø 3 mm – Ø 4 mm
13. Pithwood (circular wheels)
14. Plexi stick (clear)
15. Poising cutter
16. Poising tool
17. Rodico or Rub-Off™
18. Roller remover
19. Screwdriver set
20. Staking set (good quality, organized)
21. Truing caliber (figure 8)
22. Truing caliber (lyre)
23. Tweezers, antimagnetic, No. 3
24. Tweezers, antimagnetic, No. 5
25. Tweezers, brass or nickel (AM or No. 12)