‘I am terrible – it is a hopeless endeavour’

Frustration: Syl Tang tries – and fails – to work on delicate movements at the IWC Schaffhausen workshop in New York — Pascal Perich

Skills Fine watches are expensive, but why? *Syl Tang* finds out the hard way by learning the watchmaker’s craft

Why do luxury mechanical timepieces cost so much? After all, beneath the elegant dials, one complicated watch must be like another?

I can fix my car, and I can gut a fish. So when I was invited to try my hand at watchmaking at three luxury brands’ workshops, I wanted not only to test my dexterity, but also to discover how time-consuming the process really is – and how those high prices are justified.

In California’s Napa Valley at A. Lange & Söhne’s academy, I try my hand at engraving a balance cock – and I quickly realise how much technical know-how a watchmaker needs.

In a mechanical watch, a balance spring – also called a hairspring – is attached to a balance wheel. The spring and the wheel oscillate together, which controls the speed at which the wheels inside the watch run, which in turn leads to the movement of the hands.

The watch uses regulating pins to control the rate of oscillation, and those pins are mounted on a piece called the balance cock.

Though many watchmaker’s balance cocks are hidden, A. Lange & Söhne’s are a visible feature in all their watches, so they are hand-finished with elaborate decorations. Each is hand-engraved, taking a skilled craftsman about 45 minutes apiece.

Using a flat edge burin – a metal tool with a wooden handle – I attempt to decorate my balance cock with *intaglio* engraving, which involves scraping material away from the surface.

Simone Rauchfuss, Lange’s engraver, instructs me to shift the tool in my hand back and forth, making a sort of V-shape as I move the tool forward. In less than five seconds, I slip and make a giant gash in my design. I had drawn out what I intended to *intaglio* on the piece, but it seems I am unable to move it precisely enough to follow my own lines.

Lange balance cocks are decorated with ornate flowers or custom drawings, at the request of clients. Unless my client is asking for a nine-year old’s attempt at drawing a daisy, I fear my balance cock is not going to be sold to a collector.

I try again, this time attempting to engrave an image of a fish, since I decide that the balance cock is shaped a bit like a salmon to my amateur eye. My “salmon” looks more like a mutant creature from an *X-Men* movie.

Next, I am handed a tiny tool with which to insert minuscule screws into the balance wheel. These screws fit round the rim of the wheel and are used as weight to adjust the balance.

Unfortunately for me, the screws are so small I can barely hold them in the tool, and when I attempt to insert one into the wheel, it promptly flies to the floor, disappearing as a fleck never to be seen again.

Even with my loupe, and with 20/15 vision in my glasses, it is a hopeless endeavour. I easily lose five screws before giving up. Not a single one makes it into the wheel.

Finally, I try to wind a mainspring and load it into the barrel. In a mechanical watch, this is a flat piece of metal ribbon. Winding the ribbon into the barrel stores energy, which is released when the ribbon unwinds. The barrel then turns the watch wheels.

Winding it is no problem. But when I begin winding, I learn I have to attach the end of the spring into a tiny notch inside the winder handle, and this part is impossible.

I load the barrel again and again – to no avail. My spring does not catch. My future in watchmaking looks increasingly grim.

Determined to acquire some skills, I head to Geneva. There, the Roger Dubuis *manufacture* is the workplace of some of the most skilled professionals in Swiss watchmaking.

The 20 year-old company was started by one of the most respected watchmakers in Switzerland, who made timepieces for Patek Philippe before setting up his own brand. All watches that leave the factory are *Poinçon de Genève*-certified, with the Seal of Geneva. The seal is given to watches that meet a particularly high standard.

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Every piece of every Dubuis watch must meet that standard, and I walk thousands of feet across the manufacturing floor, watching 160 craftsmen working on their individual skills.

I try my hand at “dressage” – the process of creating straight lines etched on a surface. At the dressage station, I am instructed to put a watch part under a champagne cork.

Then I drag the piece in a straight line down a sheet of abrasive paper, which I guide entirely by sight. The action etches a line on to the piece.

Two Dubuis craftsmen inspect my work. My lines are crooked. I then spend an hour attempting to make a straight line. My lines are still wobbly or uneven in texture, the groove too deep or too light at various points.

But to pass *Poinçon de Genève*, the line cannot just be straight; it also has to be perfectly even in depth, top to bottom, requiring the exact amount of hand pressure at all points. That is just one of potentially 590 pieces that go into a Roger Dubuis watch.

I resign myself to supplying more corks by drinking the champagne.

Back home in New York, I take on my hardest challenge with IWC Schaffhausen. I attempt to make the sort of movements used in the maker’s Portuguese Handwound.

Once I have removed the balance bridges from the watch, I attempt to assemble the wheel train in a watch.

Imagine two wheels with teeth, where one rotates the other. Loosely described, the wheel train converts the watch’s power into time measurements.

My wheel train does not come together correctly. When assembled, it does not turn.

I attempt the hardest task of all: to align the roller jewel with the pallet fork.

The pallet fork is a part of the lever escapement inside a watch. Each time it moves, it pushes the balance wheel back and forth and each swing moves the gear train a fixed amount forward, which generates a steady rate of movement of the hands.

But there is a problem: the tiny pin I must insert between the pallet fork is on the underside but also attached to a spring. So not only is it minuscule, I also cannot see it as it bounces from side to side.

After 20 minutes of failure, I am saved. A customer arrives to see the watchmaker, wanting to have his timepiece adjusted.

As a fine watchmaker, I was truly terrible at every task. I now look at high-end timepieces differently, and have a newfound respect for the agility that goes into the tiny parts.

I also realise that incredible skill – with an intense amount of precision – goes into all aspects of these pieces.

Which, of course, explains those high prices. But unfortunately for me, not only have I realised I have no future in watchmaking, I am also smitten with admiration for the craft.

So much so that I am now desperate to own all these tiny – and very expensive – works of art.