

# **Marc Jenni: “How I Manufacture A Balance Cock in 10 Steps**

## **1. Idea of concept and inspiration while enjoying a pizza**

Behind every great idea there needs to be an incubator. Something which is at the beginning of all... well, I personally get most of my creativity at the local pizza restaurant enjoying the pizza of the day!

## **2. Preliminary hand sketches accompanied by a cup of coffee**

After the idea is born, I need to capture the idea onto paper. This becomes an important tool and also guideline for all your future activities. Usually a cup of coffee is backing me up during this drawing phase. It's stimulating my neurons as well...

## **3. Technical construction in 3D and rocking with U2**

The outline is now on paper, so let's enter the next phase : the technical construction. I approach the technical construction similar to my watchmaking competences. First I design the solid parts virtually, then I assemble them - as I would do it later on during the manufacturing phase. A crucial approach is to influence the virtual design with what is possible to manufacture with the machines and tools I have at disposal. I enjoy my favorite musicians from U2 during this period. It makes the digital world more dynamic to me.

## **4. Preparing the 2D manufacturing template and listening to Mike Oldfield**

Before anything can be manufactured one needs to prepare either a technical drawing as the manufacturing reference or a 2D manufacturing template for the CNC machine. In fact, my CAM does not support 3D files so I have to prepare the file the way I can later on start programming the CNC program. Usually Mike Oldfield and his universe of new age perfectly supports this process. Calm and concentrated.

## **5. Programming the CNC machine with utmost silence**

For the CNC programming I need absolute silence. One wrong entry and the next few hours might become scrap! Since the machine is simply doing what you tell them to do, you'd better start initially with the correct program. My CAM program does then translate the program into command lines for the step motor control unit.

## **6. Starting manufacturing process of balance cock and controlling milling cycles with an OMEGA timer**

At this stage I can hit the green „Start“ button and the manufacturing process starts. The CNC machine starts its journey and will only stop once the component is entirely completed. Since I do not have a complete automatized machine, I need to manually switch the needed tools between the different phases. In order to monitor and control the milling and drilling cycles, I use an old OMEGA timer.

## **7. Pre-assembly, dimensional control and adaptations with a 2nd cup of coffee**

The time has come to verify what you have manufactured and to adapt if needed. With a second cup of coffee (or even the third, who counts anyway...) I assemble the components with sub-

components. Every detail needs to be perfect. There are still couple of processes ahead, so any error at this stage will get worse during the next few steps. If an error occurs, it needs to be noted, adapted on the 3D and technical drawing files and to be re-done.

### **8. Dis-assembly, start of finishing process and miscellaneous surface treatments hearing George Michael**

After possessing the final component, I need to turn this component into a beauty. Taking off the manufacturing marks with a multiple of tools and machines, each component and facet gets a new face. During these sometimes repeatable moments and calm situations, I personally like to listen to Mr. George Michael; another great solo artist.

### **9. Final assembly and quality control in Hans Zimmer's company**

As in a movie, the climactic scene is now playing. Everything is ready for the final assembly! Who better than my most favorite score writer Hans Zimmer should I be listening to now? Like a puzzle or assembly of a Lego construction, each part gets into its place and with the final touch, the balance wheel starts to „breath“. That very magic moment is why I spend uncountable hours to reach to this step.

### **10. Delivery to the customer and celebration with a glass of red wine**

Everything ends with the delivery of my timepiece to a happy customer. A privilege for every artisan; a mutual exchange of passion. This needs to be celebrated with a good glass of red wine! Cheers.

Marc Jenni –[click here](#) for the original post in Italian Language.