

The Science of Invention

Greubel Forsey once again creates a tribute to one of their very own, this time to the Quadruple Tourbillon WORDS: KIT PAYUMO

Nowadays,

when one thinks about the Tourbillon mechanism one doesn't automatically think of Abraham-Louis Breguet. Yes, the legendary Swiss watchmaker who invented the mechanism to eradicate the effects of gravity on the functions of the pocket watch, along with the watch company that today bears his illustrious name, will always be synonymous with the venerable escapement. But recently two other names have constantly been mentioned in connection with the Tourbillon escapement: Robert Greubel and Stephen Forsey, the former a Frenchman who once worked with IWC on their Grand Complication project, and the latter a Brit who began his career restoring antique clocks for the prestigious Watch Restoration Department at Asprey's in London. Both men have been working together since 1992 at Renaud & Papi where they developed extremely complicated watch movements. Gathering their forces, they co-founded CompliTime in 2001 to develop and craft complicated movements for other prestigious brands. Using the well earned caché from that endeavor, both men co-founded Greubel Forsey which they launched at Baselworld in 2004 with the introduction of their first "fundamental invention", the Double Tourbillon 30'. Today the company is known for specializing in extremely high-end complicated timepieces, making a name for itself especially for ultra-complicated and ultra-limited timepieces that make special use of two or more Tourbillon mechanisms within the same watch case. Hot off another win at the Geneva Grand Prix, 2011 marks the 7th year for Greubel Forsey and not content to sit on their laurels, the company has come out with yet another staggering piece of horological wizardry.

Greubel Forsey timepieces can only be called unique, especially in their design and execution. The Invention Piece 2, the Quadruple Differential Tourbillon based on Greubel Forsey's already exceptional Quadruple Tourbillon, is no exception. Not only did the piece stop everyone on their tracks upon making its long delayed debut, it literally took center stage at this year's Salon International de la Haute Horlogerie. In a word, the timepiece was stunning. This isn't the first time Greubel Forsey has offered a watch with four tourbillons, but it is the grandest. In the partnership's ten years, no less than six significant inventions have been borne out of Greubel Forsey's think tank, and as of this year, three of them have been celebrated by Invention Pieces. Skipping over the Invention Piece number 2 the first time around (because it reportedly needed more work), the watchmaker inventors went straight to the Invention Piece 3, which paid homage to the Tourbillon 24 Secondes just last year. The original Invention Piece 1, which debuted in 2007, was a celebration of their much vaunted Double Tourbillon 30'. All 11 pieces of those quickly sold out. This year, inventors Robert Greubel and Stephen Forsey, have once again created a tribute in honor of another of their fundamental inventions. Through the Experimental Watch Platform, or EWT, the company's proprietary research platform, the inventor watchmakers have finally created the Invention Piece 2 to pay tribute to the Quadruple Tourbillon by endowing it with a "completely new technical architecture" and offering the holy trinity that make Greubel Forsey one of the most accomplished, if not *the* most accomplished ultra-high-end watch maker on the planet: incredible complexity, incredible finishing, and last but not least, incredible aesthetics.

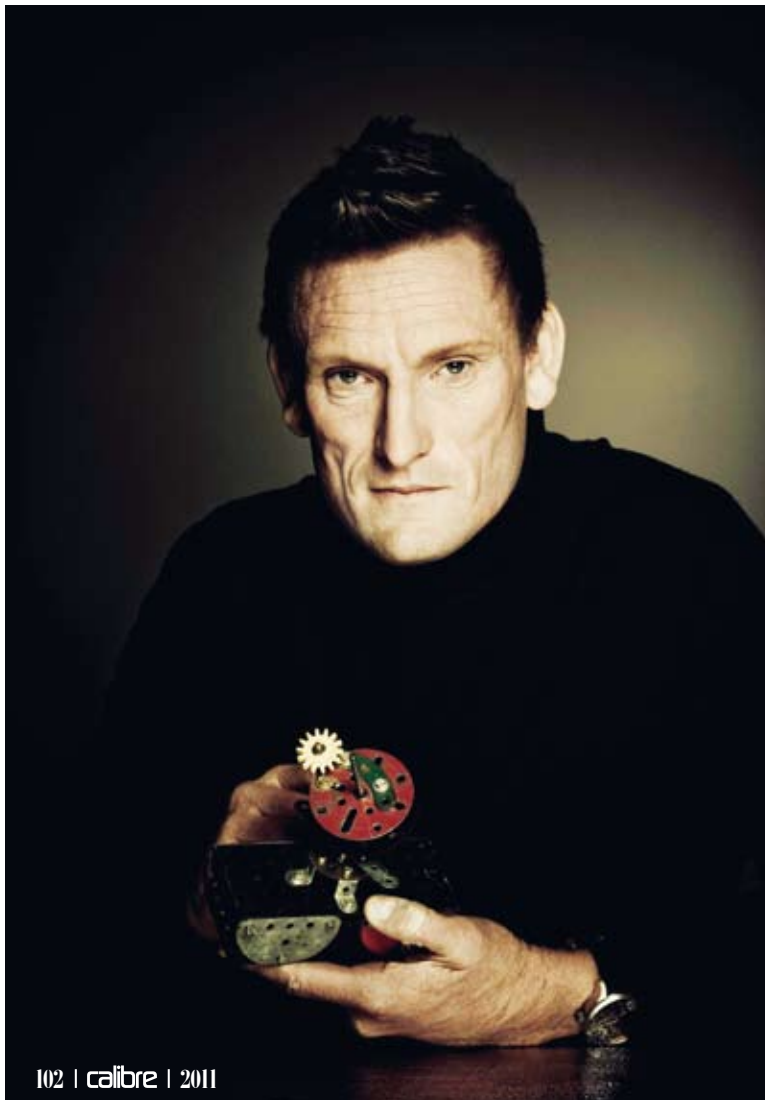
Micro decoration is a process whereby fine watches are made even finer by the amount of time spent meticulously refining and decorating the movement. There are functional uses for this, of course, not the least of which is corrosion prevention, as well as the seamless integration of the hundreds of parts and pieces required to assemble a watch movement; or the watchmakers are just obsessive/compulsive because they have too much time on their hands. Whatever the case, this obsessive attention to detail is a point of pride for watchmakers; most especially watchmakers who specialize in ultra-high-end and complicated timepieces like Greubel Forsey. Their point of pride for the year is, naturally, the hand-wound mechanical calibre GF03n movement, which comprised of 594 pieces, breathes life into the Invention Piece 2. Featuring a hefty amount of "anglage", literally the process of applying "angles" to the bridges and other components in the movement, the staggering amount of decorated parts in the Invention Piece 2 is more than enough to justify its equally staggering price point. Not to mention the privilege of possessing one of the world's most difficult complications to master, times four no less. Main plates are made of nickel silver, finished in spotted nickel-palladium, hand beveled with straight-grained flanks and polished counter-sinks. The nickel silver bridge is frosted and spotted with polished beveling in a nickel-palladium finish; while the 4 steel Double Tourbillon bridges are hand-beveled, and flat black polished with polished counter sinks. The calibre GF03n oscillates at 21,600 vph, and boasts of



64 jewels as well as a 56-hour power reserve, "the movement is designed so it will run for 80 hours anyway so we have good back-up of power but the 56 hours is where we get the best performance" –Stephen Forsey.

Naturally, the loving detail extends towards the exterior of the Invention Piece 2 as well; the polished bezel and center band with hand-finished straight graining of the 43.5 mm wide and 16.28 mm thick case in either 950 Platinum or 18K SN red gold is lustrous enough to see your reflection on. Gazing at the watch, one is immediately struck by the literal 3D depth of the dial which features a remarkable amount of open space. The four tourbillons are located at more or less opposite ends of the dial; with a Tourbillon 30' system at 8 o'clock, the side of which is made visible through the sapphire lateral window. The other Tourbillon 30' system, with a Tourbillon rotation sapphire crystal indicator in 4 minutes, is at 1 o'clock; while at the center of the dial is the spherical differential system driving or "feeding" the escapements and "recovering the information". Essentially, the escapements are tourbillons within tourbillons (that's starting to sound like the plot of Inception); both horizontally aligned tourbillon structures spins once each four minutes, while inside each of them is a diagonally mounted tourbillon that spins once every minute. All four of them work together to regulate the time displayed on the off-center dial at 5 o'clock. "By taking the four tourbillons which were side by side in our Quadruple and then laying them out to show the differential, we put the invention itself or the mechanism at the centrepiece of the architecture of the timepiece and by concealing the barrels below the time display at 5 o'clock we have been able to free up a certain amount of volume and depth to the architecture enabling this very distinctive feeling of depth and 3 dimensional visibility of the dial" –Stephen Forsey.

Clockwise from opposite top:
The original quadruple tourbillon; the avant garde "modern" wing of the Manufacture; Stephen Forsey, co-founder





The time display itself is, naturally, Greubel-Forsey-unique comprised of a 22K gold twelve (12) hour indication with a red triangle rotating to mark the hours and the minutes indication itself on a rotating disc with a fixed blue triangle at the 12 o'clock position, at the center of which, reside 22K GF initials. A small seconds subdial takes up the 10 o'clock position while the 56-hour power reserve indicator sits at 11 o'clock. The inventor watchmakers did not leave the rear of the watch untouched, protected by a sapphire crystal caseback a special engraved message from the inventors to the owner of the watch sits in all its glory. Finally, just like the other Invention Pieces, the Invention Piece 2 is offered in limited editions of 11 both for the platinum and red gold editions and is matched to a hand-sewn alligator strap with a platinum or red gold folding clasp hand-engraved with the Greubel Forsey logo.

Greubel Forsey watches are not for everyone; the price of admission alone is enough to make the likes of Donald Trump step back and hesitate. The red gold version of the Invention Piece 2 is already \$780,000.00; let's not even mention the platinum version, no, let's not go there. That's over three quarters of a million dollars just for a watch. But for Greubel Forsey and to the lucky few (and there are a surprising number of them) able to possess this watch, the whole point is not price. Sure, for some out there (and there are also a surprising number of them as well) the bragging rights alone are enough to justify the investment. But for the connoisseurs and the aficionados, in other words: the real watch people who appreciate the meticulous and obsessive amount of care and devotion lavishly put into the creation of such timepieces, the mere existence of the Invention Piece 2 is more than enough. ■



Clockwise from right:
co-founder Robert
Greubel; the "traditionally
provincial" wing of the
manufactory; the new
Invention Piece 2 in
platinum.

