

The parade of new base calibers continues this year, as ever more watch companies strive for independence. For some, the quest is a response to ETA's curtailment of movement-kit shipments (see WatchTime's August 2010 issue, page 102). Others seek the prestige and peace of mind conferred by one's very own, manufacture movement. What follows is a rundown of some of the new calibers.

BY GISBERT L. BRUNNER

BASE CALIBERS



Hublot's automatic Unico movement with chronograph module

HUBLLOT

After several years of preliminary work, Hublot launched two calibers, HUB1110 and HUB1240, at Baselworld this year. The first one acts as the base for the second; the pair is named Unico. The HUB1110 is an automatic movement with a power reserve of 72 hours and a replaceable escapement that has already appeared in calibers from the *manufacture* H. Moser & Cie.

The pallet fork and escape wheel are made of lightweight, anti-magnetic, lubricant-free silicon. The balance, which has a free-sprung hairspring, oscillates at 28,800 vph. Hublot supplies a second escapement module to simplify future service. The skeletonized rotor turns on a ball bearing.

Hublot's watchmakers assemble the chronograph module, with its flyback function and integrated date display, directly on the front side of the base caliber, which transforms the HUB1110 into the HUB1240. The chronograph has a column wheel, which can be viewed through the cutout at 6 o'clock. A double clutch creates the link to the watch movement. The mainplate and bridges are decorated with bead-blasting and black PVD coating. The first production run of the HUB1240 of 500 pieces is housed in a black King Power case.



*The SW 500
from Sellita*

*TAG Heuer's new
Caliber 1887*



in the three-hand ETA 2824. According to Sellita chief Miguel Garcia, prototypes of the new movement are now being tested in house and by outside companies. Sellita, founded in 1950, was for decades a major assembler of ETA movements (it was ETA's best customer by far) and hence knows them inside out. It has now established itself as a supplier of its own reliable and accurate movements, so the SW 500 — apart from the usual difficulties with any new product — shouldn't present many problems.

TAG HEUER

To mark its 150th birthday, the chronograph specialist TAG Heuer has introduced a new automatic chronograph movement called the 1887. Its name commemorates the year in which Heuer, as the company was then known, patented an important invention, the oscillating pinion, which was a clutch that coupled a movement's seconds wheel with the chronograph. The device consisted of a small cylinder with pinions at both ends, and, compared with the traditional geared coupling system, was prized for its simplicity, sturdiness, and low manufacturing cost. The oscillating pinion survives to this day in movements including the famous ETA 7750. The new TAG Heuer caliber contains an updated, improved version of the oscillating pinion, which can start the chronograph in $2/1,000$ s of a second.

TAG Heuer assembles the new movement itself using in-house mainplates, rotor plates and bridges, as well as other components from 22 outside manufacturers (21 of them Swiss). The movement has 320 parts. The company has invested more than 20 million Swiss francs in the TAG factories in La Chaux-de-Fonds and Cornol that will make the 1887. Ultimately, TAG Heuer, now preparing for the day when it will no longer have access to ETA movements, will turn out tens of thousands of 1887 movements each year.

SELLITA

The Swiss movement-maker Sellita has already come out with substitutes for some of ETA's best-selling calibers, such as the 2824 and 2892 (SW200 and SW300, respectively), introduced after ETA's patents expired. Now Sellita has launched a stand-in for ETA's famous automatic chronograph movement, the 7750. It's called the SW500. With a diameter of 30.3 mm and height of 7.9 mm, it fits anywhere the 7750 had been used. The movement's construction virtually mirrors the 7750, with a 28,800 vph frequency, 25 jewels, a date display, an oscillating pinion clutch, a cam system and 30-minute and 12-hour counters. One of the caliber's important features is a regulating system with an eccentric, like that

CLOSE-UP
New Base Calibers



Panerai's P.999 is the right size for the brand's smaller models.

Although the movement is Swiss made, it was largely designed by Japan's Seiko Instruments Inc. (SII). The platform for the 1887 was SII's Caliber TC 78, which was patented in 1997 and 1999. TAG bought the rights to use the design from Seiko. Among the TC 78's useful features was its so-called Magic Lever bidirectional winding system, a two-armed device that either pushes or pulls a winding rotor, depending on which way the winding rotor is turning. In the 1887, this concept has been renamed the High-Efficiency Rewinding System. Seiko introduced the Magic Lever in 1959 and has used it in many automatic movements, including Caliber 6139, which in 1969 became the world's first automatic chronograph to make it to market (narrowly beating out the two automatic chronograph movements developed, respectively, by a group of Swiss companies, including Heuer, and by Zenith.)

The 1887 has a diameter of 29.3 mm and a thickness of 7.13 mm. Its frequency is 28,800 vph and it has a power reserve of about 50 hours. The chronograph functions are controlled by a col-

umn wheel. The first watch with the new movement was the Carrera Caliber 1887 Chronograph, launched at Baselworld this year.

CHOPARD

Another watch company is also celebrating its 150th anniversary this year: Chopard. It's marking the occasion with a group of new movements that include one, the L.U.C. 1.010, suitable for large-scale industrial production. The 31-jewel movement, with bidirectional winding and a ceramic ball bearing, has a frequency of 28,800 vph and a power reserve of at least 60 hours. The crown is at 4 o'clock and there is a window date display. Chopard's movement designers adapted some features of Chopard's chronograph caliber L.U.C. 11 CF for use in the 1.010. The new movement is COSC-certified.

PANERAI

For many watch fans, winding one's watch is a pleasant pastime. Unfortunately, the range of interesting hand-wound calibers without additional functions is not wide. Now Panerai has expanded its already considerable collection of hand-wound movements having high power reserves with the addition of the P.999 caliber, which runs for 60 hours without winding. With a diameter of 27.4 mm and a thickness of 3.4 mm, the P.999 can be used in smaller watches like the Radiomir models. So far, the only Panerai watch containing it is the Radiomir P.999 42mm.

In contrast to the P.2002, which has a power reserve of

Chopard celebrates its 150th year with the automatic movement L.U.C. 1.010.



CLOSE-UP
New Base Calibers



The Cartier Caliber
1904-PS MC

The Lange 1 becomes an
automatic: Caliber
L021.1 from A. Lange
& Söhne



The 1200P / 1208P is the
thinnest automatic movement on
the market.

eight days, the P.999 features a rather traditional bridge design with 19 jewels, visible winding gears, a classic balance cock and elegant fine regulator. The small seconds subdial at 9 o'clock is a tribute to the past. The P.999 has a Glucydur balance and a frequency of 21,600 vph.

CARTIER

The new 1904-PS MC automatic base movement from Cartier, presented at the SIHH watch exhibition in Geneva this year, is based on Cartier's 8000 MC from 2005. Unlike that movement, though, the 1904-PS MC has a small seconds subdial at 6 o'clock (the 8000 has a center-mounted seconds hand) and a date display.

The new movement has a diameter of 25.6 mm, the same as the ETA 2892, but is a little thicker: 4 mm as opposed to 3.6 mm. The regulator system with eccentric also recalls ETA movements. The 1904-PS has twin barrels that together provide a power reserve of at least 48 hours. (The name "1904" is a reference to the year that Cartier made for the Brazilian pilot Alberto Santos-Dumont one of the earliest wristwatches so he could keep his hands free while flying his airship.) Winding is bidirectional; instead of traditional reversers, Cartier uses a pawl system. The center of the winding rotor is fitted with a system of ceramic ball bearings.

The movement, which has 186 components, was designed so that other functions can be added later. The balance's frequency is 28,800 vph. It's made of gold-plated Glucydur and has a self-compensating Nivarox I hairspring. Geneva stripes adorn the movement; they are more appropriate than the rather showy "double C" that decorated earlier models.

A. LANGE & SÖHNE

Until this year the German company A. Lange & Söhne, in Glashütte, had just one automatic movement, Caliber L921.4, known as the Sax-O-Mat. It has now introduced a second one, the L021.1, which is contained in a watch called the Lange 1 Daymatic. The watch is a new rendition of the brand's leading Lange 1, which before now was available

only in a hand-wound version. The new automatic movement preserves the overall look of the Lange 1 but shifts the elements around: the hour-and-minute subdial is moved from the left of the dial to the right; the seconds subdial is shifted left; the big date display is moved from right to left. The new movement supports a display not found on the Lange 1: a retrograde day indicator on the left side of the watch's dial.

The L021.1 has 426 components, a large number even given the big date and retrograde day displays. It has 67 jewels, nine of which are set in gold chatons. The movement has a full-sized rotor (the rotor on the Sax-O-Mat is smaller, covering an area equal to three-quarters of the entire movement). It is made of 21k gold and, on its outer rim, platinum, for added mass.

The hairspring is made in-house. The balance has a frequency of 21,600 vph. At first glance the swan neck on the hand-engraved balance cock suggests a fine regulation in place of the usual Lange system. But that's not the case: The balance has six weights to adjust the torque: this ensures that the in-house flat hairspring can breathe. The swan neck is there "only" as a regulating aid for the beat adjustment so that the movement ticks evenly. The watch boasts a power reserve of more than 50 hours, along with a hack mechanism for setting the time to the exact second.

PIAGET

The automatic Caliber 12P from Piaget found its way into the *Guinness Book of World Records* only a short time after its introduction in 1960. This movement was only 2.3 mm high and broke all records in thinness up to that point.

Piaget marked the 50th birthday of its old record holder by introducing two new ones, the 2.35-mm-thick Caliber 1200P and Caliber 1208P. (The former gives the hours and minutes only; the latter has a seconds subdial at 4 o'clock.) The movements are thinner than any other automatic now on the market. They have microrotors (made of 22k rose gold), as did the 12P, and a power reserve of about 40 hours. The balances have a frequency of 21,600 vph.

BULGARI

At Bulgari the year 2010 is most notable for the complete merging of Daniel Roth and Gérald Genta (see *WatchTime's* August 2010 issue, page 44). It also marks the introduction of the company's first in-house movement, Caliber 168. The 168 (the caliber's name refers to the number of components) is the result of the takeover in 2007 of the movement manufacturer Leschot, based in La-Chaux-de-Fonds.

This new movement, which can be found only in Bulgari's Sotirio collection, has a bi-directional central rotor with an outer segment made of heavy metal, a disconnecting gear for the automatic winding when the watch is wound, central seconds, a jumping-date display and 42-hour power reserve. It is 25.6 mm in diameter and 4.75 mm thick.

The three-arm, Glucydur balance has a frequency of 28,800 vph. Bulgari makes the movement's mainplate and bridges entirely out of what is called "German silver" (actually an alloy of copper, nickel and zinc).

SWATCH AND TISSOT

Since late 2009, the Swatch Group-owned Swatch and Tissot brands have enjoyed the benefits of the extremely economical automatic chronograph Caliber C01.211, manufactured by ETA. The movement has a diameter of 31 mm, a height of 8.4 mm, 15 jewels, a brass unidirectional central rotor, a power reserve of 46 hours, small seconds at 9 o'clock and a frequency of 21,600 vph. Like its costlier brother, the ETA 7750, the C01.211 has a 30-minute counter at 12 o'clock and an hour counter at 6 o'clock. (The hour counter times up to six hours, versus the 7750's 12 hours.) The movement has a date display at 3 o'clock.

Also like the 7750, the C01.211 has a cam system for controlling the chronograph function. Several components, including the escapement, are made of high-performance plastic. ETA has much experience making such components. The 2840 that ticks inside the automatic Swatch, launched in 1991, has had some plastic movement components since 1997. The Tissot Astrolon, from 1970,



Bulgari becomes a manufacturer with Caliber 168.

The simply designed C01.211 for the Swatch Chrono



also had some plastic parts. Because of the great strides made in the high-performance-plastic sector over the last 40 years, the C01.211 should avoid the quality problems that befell the Astrolon.

LONGINES

No doubt about it: most chronograph connoisseurs prefer the column wheel to the cam. But the column wheel, used to turn the chronograph function on and off and return the chrono hands to zero, is complex and three-dimensional. It is difficult to fabricate and comes at a hefty price. As a result, so do most column-wheel chronograph watches.

ETA has tackled this high-price-tag problem with its new automatic, column-wheel movement, the A08.231. The movement, used by Longines in its Column-Wheel Chronograph (Longines has renamed the movement the L688.2), is a simpler, and less expensive, caliber. It has a unidirectional ball-bearing rotor, oscillating pinion clutch, Glucydur balance and Nivarox flat hairspring that oscillates at 28,800 vph.

Without a doubt, the advantage of the column wheel over cam switching is less wear because the stress is distributed over several columns (six in this case) during the various actions. A column wheel also enables smoother and more precise motion of the chronograph mechanism and pushers.

The most important goals in designing the chronograph control mechanism were a streamlined design, a low number of components and a high degree of serviceability. Because you can't break what's not there, pushers were created to work as directly as possible on the mechanisms for the start, stop and reset functions. The two-arm reset hammer for the chronograph hand and the minute counter is self-adjusting due to its flexible positioning. ○

The new ETA Caliber A08.231 for Longines