

# Fine Tuning

It's all in the detail with Patek's newly refined annual calendar

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Even the peerless Patek Philippe can never afford to rest on its laurels. Its creativity and ability to produce headline grabbers has been much on display over recent years – witness the Star Calibre 2000 or the 10-Day Tourbillon. But this has not been achieved at the expense of the less spectacular production watches that the marque's reputation depends on. The Gondolo Calendario is the latest 'standard' from the Patek repertoire – a showcase for the smaller-scale refinements that make new masterpieces possible.

White-gold (left; £18,000) and yellow-gold (right; £17,000) variants of Patek Philippe's ref. 5135 Gondolo Calendario annual calendar, launched at Basel in April. A tonneau case houses the new 324/205 movement, underscoring the ongoing popularity of the art deco style.

In horology, the maxim ‘if it ain’t broke, don’t fix it’ carries much weight; watch companies often stick to tried-and-trusted base movements, eschewing any dramatic changes. New movements cannot be tested by accelerating the ageing process; you just let the movement tick away and look at it years later to see what has happened.

Despite all of Patek Philippe’s horological hyperactivity and the use of some 35 basic calibres in its wristwatches, a large number of pieces in the current collection are powered by just two automatic calibres: the ultra-thin 240 with acentric rotor and the 315 with central rotor. Despite small adjustments and improvements throughout the years, these workhorses have remained essentially unchanged since their creation last century. The time had clearly arrived to re-evaluate, and the robust calibre 315 was the first candidate for a 21<sup>st</sup> century makeover. The result was the calibre 324.

Being Patek Philippe, however, just re-engineering a base calibre will never be sufficient. These changes served as a springboard for extending the popular annual calendar line. Not only does the resulting ref. 5135 Gondolo Calendario have a new movement – the 324/205 – but a completely new case and dial layout also add to the allure of a watch already making quiet waves.

### Domino effect

The most significant change – and cause for other changes in the design – is upping the calibre 315’s beat rate from 21,600 vph (3 Hz) to 28,800 vph (4 Hz). Generally speaking, the 324’s higher beat rate provides better amplitude stability for the balance, thereby raising the potential accuracy of the watch. It is here that the chain reaction starts: increasing the speed of the escapement means the power reserve will decline, so the winding mechanism, barrel and going train all need to be optimised.

The going train, which transfers the energy from the winding barrel to the escapement, must transfer energy as efficiently as possible to each subsequent wheel and pinion. As well as friction and sloppy contact between the intermeshing teeth, energy transmission can be affected by temperature, as expansion or contraction of the teeth changes their points of contact.

Patek Philippe spent many years researching the most efficient curvature profile for going train teeth. The new tooth profile is rather sharp in appearance and even ugly when viewed under the microscope, in comparison with the more voluptuous curves of the classical profile. But even a layman can see that the sloping sides of each tooth make excellent contact, even if the wheels move slightly closer or away from each other under the influence of temperature change. The measurable results confirm these ideas: where the balance wheel’s amplitude (or outward ‘swing’) varied by ~10% over a period of 40 minutes with the classic profiled teeth, the new teeth bring this variation down to ~5% over the same period.



The two sides of the new calibre 324. Ticking at 28,800 vph, Patek’s legendary Gyromax balance wheel has been updated to incorporate four spokes (rather than the usual two) with four movable poising weights (‘masselots’) rather than eight, improving torsional rigidity and more precise poising. The 21 ct. gold rotor bears Patek’s famous Calatrava cross.



### Gyromax

The Gyromax balance wheel was a real technical beauty when introduced in 1949 – an attractive and functional design, hardly bettered since. While most balances were notoriously difficult to adjust, the Gyromax’s eight tiny weights along the topside of its perimeter were, in contrast, easy to reach and turn. The speed of the balance was simply altered with a turn of the eccentric weights – inwards or outwards for a slower or faster speed, respectively.

For the Gondolo Calendario’s calibre 324, the improvements to the trusty Gyromax were twofold: the original Gyromax now has four arms rather than two – making it stiffer and more resilient – and the number of weights has been reduced to four instead of eight, simplifying adjustment (the eight-weight version used three pairs for correcting  $\pm 50$  seconds/day and one pair for  $\pm 15$  seconds/day; the new version uses one pair for  $\pm 30$  seconds/day and one pair for  $\pm 11$  seconds/day). The four weights have also been placed further inwards, in order to reduce any aerodynamic disturbance that could affect the balance.

All of these changes are not ‘retroactive’; Patek has no plans to blindly implement the new developments in all other existing models. As you may have already gathered, it is simply not possible to apply these changes to existing calibres (with the possible exception of the new Gyromax improvements). Patek Philippe think very long-term and its current ‘softly softly’ approach involves a steady introduction of new models incorporating these developments, parallel to the continuing manufacture of models with existing calibres. Of course, it is logical to assume that we shall see similar changes taking place with the calibre 240 and others in future.

The patented annual calendar function – a proprietary Patek Philippe development – was introduced in 1996 in the first wristwatch that automatically advances the month, day and date, only requiring manual correction once a year on March 1<sup>st</sup>. The Gondolo Calendario is the first Patek Philippe watch to display the date, day and month in three separate apertures.

### Good looker

As one would expect of Patek Philippe, the improvements do not merely stop at the technological level. The 324’s revitalised inner life plays out within a tonneau case that borrows heavily from Patek’s past and is displayed upon a brand new dial arrangement. The Gondolo Calendario is a typical example of Patek’s ability to fuse old and new impulses into a strong visual presence. The date window at 12 o’clock is a real eye-catcher; prominent as well as unusual, with the day of the week between 10 and 11 and the month between 1 and 2. Personally, I would have preferred these windows to be centered between the indices rather than up against the 10 and 2, but this remains a matter of taste. It is a great-looking wristwatch and a perfect addition to the present collection, proving that Patek has not forgotten that even the basics are worthy of the same scrutiny and care as its complicated masterpieces. ○

**Further information:**  
[www.patekphilippe.com](http://www.patekphilippe.com)

