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BASELWORLD 2017

OYSTER PERPETUAL

## SKY-DWELLER

*Functions*





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## DUAL TIME ZONE AND ANNUAL CALENDAR

“Simplicity is the ultimate sophistication.” The aphorism, attributed to Leonardo da Vinci, captures the essence of the Oyster Perpetual Sky-Dweller. This classically attractive watch designed for global travellers is distinctive thanks to its revolutionary design, one that blends to perfection technological sophistication and ease of use. The ingenious simplicity of the Sky-Dweller is appreciable at every level – from the display to the movement as well as in its everyday use.

It provides, in a highly original way, the information global travellers need to easily keep track of time: a dual time zone with local time read via centre hands and reference time displayed in a 24-hour format via a disc; an annual calendar known as Saros, that automatically differentiates between 30- and 31-day months; and a simplified interface to set the watch’s functions via the rotatable Ring Command bezel.

Through its innovations the Sky-Dweller provides a comprehensive demonstration of Rolex technology, backed by a total of 11 patents in the fundamental areas of reliability, precision, ergonomics and waterproofness.



*Local time**Second time zone*


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## INTUITIVE DUAL TIME ZONE

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### OPTIMAL LEGIBILITY

The Oyster Perpetual Sky-Dweller features a dual time zone that is intuitive to read and simple to use. The combined display of local time via centre watch hands and reference time via an off-centre disc makes the Sky-Dweller highly legible, and endows it with unique aesthetics.

The Sky-Dweller allows travellers to adjust the watch to different time zones during a journey, while maintaining a constant, clear display of reference time – the time at home or at their usual place of work. For a person who lives in Geneva and is travelling to New York, for instance, the reference time is Geneva time and the local time becomes New York time.

### CENTRE HANDS FOR LOCAL TIME

Local time is indicated by the conventional centre hour, minute and seconds hands. It can be set quickly and easily by means of a mechanism that allows the hour hand to be adjusted independently in one-hour increments both forwards and backwards, so that changing the local hour affects neither the minute and seconds hands nor the reference time in the second time zone. Since the watch is not stopped, its accuracy is preserved.

### OFF-CENTRE DISC FOR REFERENCE TIME

Travellers can read the second time zone, or reference time, via a rotating off-centre disc on the dial. A fixed inverted red triangle points to the wearer's reference or home time. The disc's 24-hour display allows travellers to clearly distinguish daytime from night-time hours (for example, 10 p.m. versus 10 a.m.) in the distant time zone. At any moment and in any location, they know if it is an appropriate time to contact someone on the other side of the world.

### DATE CHANGE LINKED TO LOCAL TIME

The date change is linked to local time and occurs within a few milliseconds at midnight. Thus, the date displayed in the aperture is always the current date in the wearer's local time zone.

## A REVOLUTIONARY ANNUAL CALENDAR

### SAROS ANNUAL CALENDAR

The Oyster Perpetual Sky-Dweller is equipped with a revolutionary annual calendar that offers unparalleled robustness and reliability for such a complex horological function. The secret lies in its ingeniously simple design. This annual calendar's qualities are attributable to a patented mechanism named Saros – in reference to the astronomical phenomenon of the same name that governs the cycle of the eclipses – which functions using only four additional gear wheels.

### ONE ADJUSTMENT PER YEAR

The Sky-Dweller's annual calendar automatically differentiates between 30-day and 31-day months. It therefore displays the correct date throughout the year and requires only one adjustment on 1 March, February having only 28 or 29 days. This kind of calendar simplifies life

for the wearer, who no longer needs to remember to change the date several times a year.

### MONTH APERTURES

The months of the year are indicated in 12 apertures around the circumference of the dial, outside the hour markers: January at 1 o'clock, February at 2 o'clock, etc. The current month is identified in a contrasting colour.

### A SYSTEM WITH INTELLIGENCE

The ingenuity of the Saros system developed by Rolex lies in its simple and systematic handling of the irregularly occurring 30- and 31-day months. This intelligent mechanism is based on the addition of only two gear ratios and four gear wheels to the traditional Rolex instantaneous date calendar. Such mechanical simplicity ensures peerless robustness and reliability for the annual calendar function.



*Date at 3 o'clock and months in red  
around the circumference of the dial*



*Date disc*

*At the end of the four 30-day months,  
the mechanism engages and performs  
an additional date jump (left)  
but remains inactive  
for the 31-day months (below).*

The Greek term Saros has been used since antiquity to designate the approximately 18-year cycle of alignment patterns between the sun, the earth and the moon that is behind lunar and solar eclipses. The Sky-Dweller's Saros system is designed on a similar principle. Its gear wheels, differently aligned at the end of each month, return to an identical configuration at the end of a year's cycle.

#### **PLANETARY AND SATELLITE WHEELS**

The Sky-Dweller's Saros calendar relies on a fixed planetary gear wheel at the centre of the movement. A satellite wheel driven by the date disc engages with the planetary wheel and rotates, orbiting the planetary wheel in one month. The satellite wheel is fitted with four teeth, for the four 30-day months (April, June, September and November).

#### **DOUBLE INSTANTANEOUS DATE CHANGE**

The gear ratio between the satellite wheel and the planetary wheel is calculated in such a way that at the end of each 30-day month – and only in these months – one of the satellite's teeth receives an additional impulse from the date change mechanism. This makes the calendar disc jump two days (from the 30th to the 1st) within a few milliseconds to display the correct date. At the end of 31-day months, this additional mechanism is not engaged and the date disc moves forward one day as usual.







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## RAPID AND EASY FUNCTION SETTING

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### RING COMMAND BEZEL

The Oyster Perpetual Sky-Dweller is equipped with a rotatable Ring Command bezel that allows the wearer to quickly and easily select the watch's different functions via an innovative, patented interface between the movement and case.

### SIMPLIFIED INTERFACE

The Ring Command system acts as a simplified interface between the wearer and the heart of the watch. It becomes operational automatically when the crown is unscrewed and pulled out to the first position. The rotatable bezel can then be used as a function selector, turning counterclockwise to three distinct positions, 30 degrees apart. The stops are clearly defined as tiny spring-loaded balls slip into small indentations. Each function can be set by turning the crown, which has a single setting position.

Each bezel position corresponds to a function, and the wearer can switch from one function to another in any order thanks to this system. The first position gives access to the date and month setting. The second is for adjusting the

local time – the time that is changed on a journey to a destination in another time zone. The hour hand jumps in one-hour increments until it displays the new time. The third and last position is used to set the reference time, by activating the off-centre disc and the minute hand. The movement is stopped during this operation, allowing the watch to be set to the exact second.

#### **SOPHISTICATED ENGINEERING**

Several technical developments make this an easy-to-use, perfectly functional and reliable system. The revolutionary interaction between the bezel and the movement is made possible by Rolex's in-house mastery over the manufacture of each component. The interaction is achieved via an axle, housed vertically within the side of the middle case. The axle is equipped with a selector at each end. The upper selector, in the shape of a Maltese cross, is activated by pins fitted to the rotatable bezel that cause the axle to pivot a quarter-turn for each setting position. The lower section of the axle, in a simple cross shape, engages a function control mechanism that is inside the movement but protrudes slightly from the edge. Incorporating some 50 components, this sophisticated mechanism includes two stacked selection cams which drive three different setting gear trains, one for each

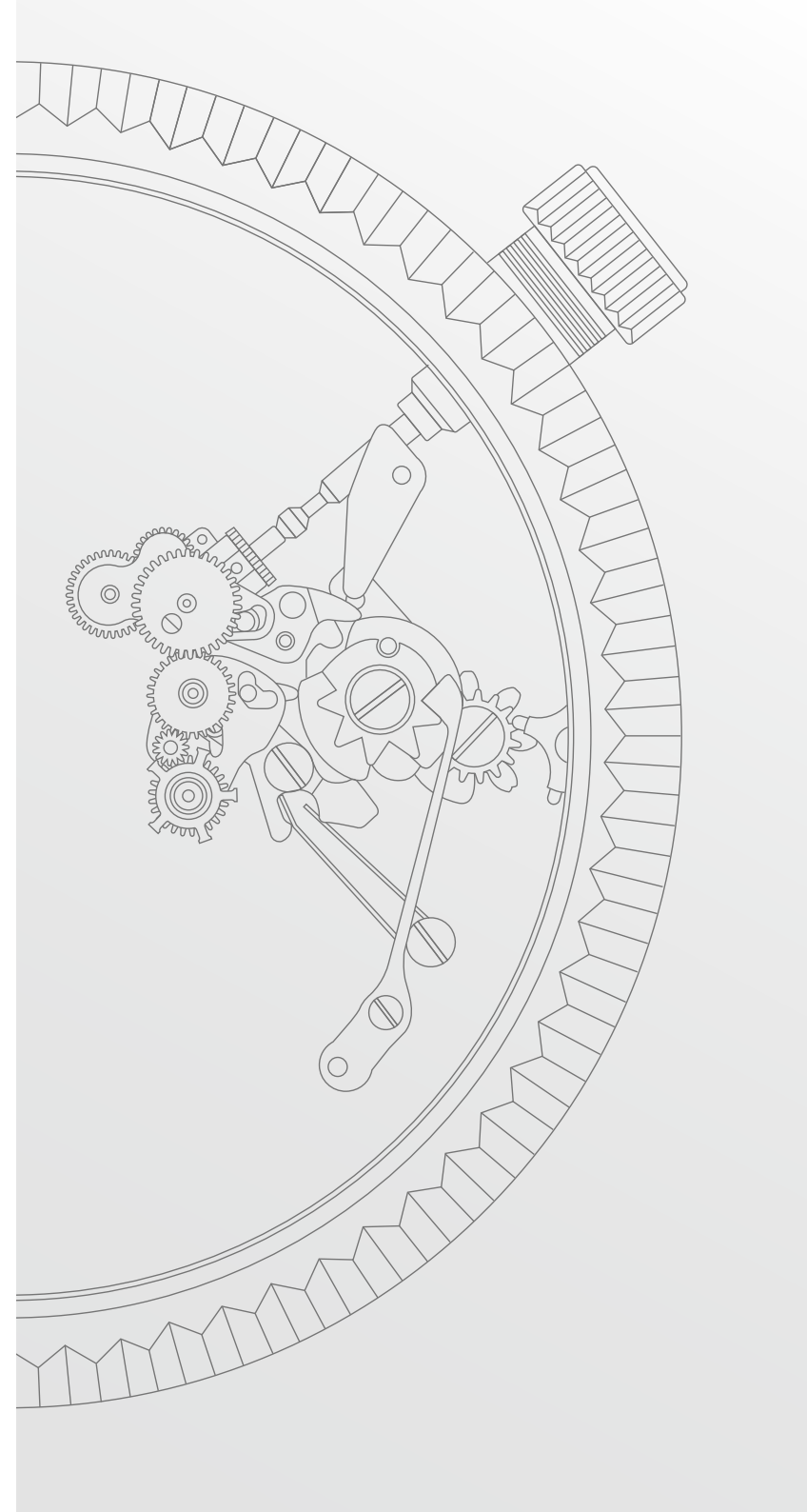
function. According to the position of the bezel and the winding crown, the cams and levers are oriented so as to activate each setting.

#### **OPTIMAL ERGONOMICS**

The Ring Command system is reliable, perfectly optimized, and has several advantages. It allows simple, rapid and assured setting, precluding manipulation errors. The bezel was designed to provide excellent grip, thanks to the specially conceived profile of its unique fluting. The final challenge was to ensure the legendary waterproofness of the Oyster watch, despite the moving parts inside the case. Rolex engineers achieved this by fitting two gaskets, one on top of the other, on the axle in the middle case. Together with the case-back gaskets and those on the screw-down crown, they ensure that the Sky-Dweller remains perfectly waterproof and impervious to dust and other impurities, just like every model in the Oyster collection.

#### **CLASSIC ELEGANCE OF THE FLUTED BEZEL**

With its iconic Rolex fluting, the Sky-Dweller is firmly established in the lineage of the classic models in the Oyster collection. Like the Datejust or the Day-Date, the Sky-Dweller has become a symbol of prestige and timeless elegance.



## CHARACTERISTICS OF THE SKY-DWELLER

### Robustness and reliability

Waterproof Oyster case in 904L steel  
Screw-down winding crown with  
Twinlock double waterproofness system  
Annual calendar with Saros system  
Paraflex shock absorbers

### Precision

Paramagnetic blue Parachrom hairspring  
Superlative Chronometer (COSC +  
Rolex certification after casing)

### Ergonomics

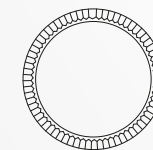
Bidirectional rotatable Ring Command  
bezel for function setting

### Legibility

Chromalight display with long-lasting  
blue luminescence  
Reference time at the centre of the dial  
Cyclops lens over the date

### Autonomy

Self-winding via Perpetual rotor  
72-hour power reserve



*Ring Command  
bezel*



*Paramagnetic  
Parachrom hairspring*



*Paraflex shock  
absorbers*



*Chromalight  
display*



# OPERATING THE SKY-DWELLER AS SIMPLE AS *1 - 2 - 3*

THE SKY-DWELLER'S UNRESTRICTED FUNCTION SETTING CAN BE CARRIED OUT IN ANY ORDER, AND BOTH FORWARD AND BACKWARD, WITH NO RISK OF DAMAGE TO THE WATCH.

1.

SETTING THE REFERENCE TIME



Turn the Ring Command bezel to position 3.



Unscrew the winding crown and pull it out to the first notch. Turn the crown in either direction to set the reference time: the hour indicated on the 24-hour disc and the minutes indicated by the centre minute hand. The seconds hand is stopped to allow precise time setting.

2.

SETTING THE LOCAL TIME



Turn the Ring Command bezel to position 2.



Unscrew the winding crown and pull it out to the first notch. Turn the crown in either direction to set the local time with the jumping hour hand.

3.

SETTING THE MONTH  
AND THE DATE

Turn the Ring Command bezel to position 1.



Unscrew the winding crown and pull it out to the first notch. Turn the crown in either direction to set the current month, indicated in a contrasting aperture around the circumference of the dial (January at 1 o'clock, February at 2 o'clock, and so on), by cycling through the dates and months. Then continue turning the winding crown until the correct date appears in the aperture at 3 o'clock.

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