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## The Manufacture Audemars Piguet

The Vallée de Joux: cradle of the watchmaker's art

In the heart of the Swiss Jura, around 50 kilometres north of Geneva, nestles a landscape which has retained its natural charm to this day: the Vallée de Joux. Around the mid-18th century, the harsh climate of this mountainous region and soil depletion drove the farming community settled there to seek other sources of income. With their high degree of manual dexterity, inexhaustible creativity and enormous determination, the inhabitants of the valley, known as Combiers, were naturally drawn to watchmaking.

Due to their high quality, the movements they produced acquired great popularity with the Geneva firms which used them to create complete watches.

From 1740 onwards, watchmaking developed into the principal industry of the Vallée de Joux. This region was thus transformed, as an 1881 chronicle put it, "into a land of milk and honey, in which poverty has rapidly disappeared".

Two names for a great adventure

In 1875, two young men passionate about Haute Horlogerie - Jules-Louis Audemars and Edward-August Piguet - decided to pool their skills to design and produce watches with complications in the Vallée de Joux, the cradle of Haute Horlogerie. Determination, imagination and discipline led them to instant success. A branch in Geneva was their next move in about 1885 and new commercial links were forged at the 1889 Paris World Exposition, where they exhibited complication pocket watches. The Audemars Piguet factory continued to expand as the years went by. Its creations represented major milestones in the history of Haute Horlogerie, like the first minute repeater wristwatch in 1892 and the smallest five-minute repeater movement ever made in 1915.

From 1918 onwards, the founders passed the reins of the business onto their sons, who in turn perfected their expertise in manufacturing men's and ladies' wristwatches as well as designing new sophisticated, ultra-thin movements. Perseverance and initiative were the watchwords: while the Wall Street crash in 1929 was a bitter blow, the company directors were soon designing so-called skeleton watches before embarking on chronograph production.

But this new momentum was abruptly interrupted by the Second World War. Re-organisation was necessary in the aftermath of the conflict. The factory focused on creating top-of-the-range items in keeping with its
tradition of innovation. A strategy that would prove its worth, especially since it was backed by outstanding creative daring.

Audemars Piguet continued to build on its now international reputation with creative designs. 1972 saw the launch of the Royal Oak, the first, immediately successful high-quality sports watch in steel, followed in 1986 by the first ultra-thin tourbillon wristwatch with automatic winding. The creative spirit of the Manufacture has not faltered since, offering aesthetically original timekeepers with outstanding movements. Thusitbrought watches with complications back into fashion at the end of the 1980s, launching its extraordinary Tradition d'Excellence collection in 1999. All the signs of a bold spirit rooted firmly in tradition and auguring well for the future.

## The perpetual calendar

$T$he perpetual calendar mechanically reproduces the passing of time.

For the watchmaker, reproducing the different lengths of the month and the leap-year cycle in mechanical terms represents a major challenge. In simple calendars, the date must be manually adjusted at the end of each month with less than 31 days. In the more sophisticated, so-called annual calendars, this correction is only required once a year or in the month of February.

However, one of the gems of the watchmaking art and one of the most sought-after and most useful complex mechanisms, is undoubtedly the perpetual calendar displaying the day, date and month while simultaneously taking account of leap years without manual intervention.

The first perpetual calendar models appeared in the $17^{\text {th }}$ century. Louis-Benjamin Audemars was the inventor of the pointer-type perpetual calendar displayed around a circle, in 1811. Since then Audemars Piguet has played a major role in developing this complication, creating a sensation; in 1978, with the presentation of the world's thinnest self-winding Perpetual Calendar with central rotor ( 4.05 mm thick), and in 1989, with the smallest ladies' mechanical wristwatch with perpetual calendar ( 23 mm in diameter), based on the world's thinnest calibre ( 4.75 mm thick).

Today's masterpiece thus represents a crowning achievement in a longstanding tradition of innovation and excellence.

## The moon phase

ne lunation lasts for 29 days, 12 hours, 44 minutes and 2.8 seconds.
N.B.: The table in the appendix indicates the dates of different moon phases.

## The leap-year cycle

Aleap year is a year divisible by four (a year when the month of February has 29 days).
For example: 1916, 1920 ... 2008, 2012, 2016 and 2020.
The years that are evenly divisible by 100 are not leap years, unless they are also evenly divisible by 400.
For example: 1600, 2000 and 2400.


## The minute repeater

Watchmakers in the Vallée de Joux have always nurtured a great passion and an innate talent for striking mechanisms. Perhaps because, amid the silence of the mountains and the hushed serenity of long snowbound winters, the crystal-clear sound of these miniature musical marvels strikes an even deeper, more meaningful chord. Or possibly because such a complex mechanism was bound to stir their legendary inventive spirit.
The striking mechanism is activated by a wellprotected sliding bolt built into the left side of the case-middle. Tiny hammers strike a two-pitched gong, visible through the transparent sapphire caseback and sounding the hours, quarters and minutes.

A minute repeater watch strikes on demand a lowpitched note for each hour, a double high- and lowpitched note for the quarters, and a high-pitched note for every minute that has elapsed since the last quarter. This called for a particularly sophisticated mechanism as the watch hammers must be tuned like a musical instrument and the movement must also "know" at any given time how many notes it must strike.

Throughout the $20^{\text {th }}$ century, this know-how was displayed and consolidated in timepieces much coveted by connoisseurs, in which striking mechanisms are often associated with other complex mechanisms. In 1992, Audemars Piguet presented a wristwatch combining a Minute Repeater mechanism with another of its specialities: jumping hours. As early as 1924,
making a complete break with the standard analog reading of time, the Manufacture in Le Brassus had introduced a pocket-watch with jumping hours and small seconds at 6 o'clock, distinguished by the inherently understated elegance of Art Deco.

## Bridge side



Dial side


## Movement technical data

Total thickness : 5,70 mm
Total diameter : 40,40 mm
Fitting diameter: $39,50 \mathrm{~mm}$ ( $171 / 2$ lines)
Frequency: 18'000 vibrations/hour
Number ofjewels: 29
Power reserve: approx. 30 hours
Manual winding
" KIF Elastor " shock protection system
Adjustable stud support
Screw balance
Number of parts: 435

## Watch indications and functions

(see figure on the inside cover)Hour handMinute handSmall seconds hand at 9 o'clockDay indicator handDate indicator hand
(6)

Month and leap-year handMoon phase indicator

## Corrector push-pieces to adjust the:

Month and leap year cyclePerpetual-calendar (leap year, month, date and day)Day of the weekMoon phase
## Minute repeater:

Repeater slide to activate the striking mechanism
## Your watch is fitted with a two-position crown:

A Crown in manual winding position
B Crown in time-setting position

## Adjusting the perpetual calendar <br> indications

## Preliminary notes

Indication settings may be disturbed if the correctors are not used properly. These correctors should only be used when necessary and following the instructions below closely.

## Corrections if the watch has stopped for less than 3 days

Check that the crown is in the proper manual winding position (position B). Using the crown, turn the hands clockwise until they reach the correct indications.

## Corrections if the watch has stopped for more than 3 days

## Precautions

Check that the crown is in the manual winding position (position B). Before using the correctors, use the crown to turn the hands until the date indicator moves 1 day forward. Continue to turn the hands clockwise until they are positioned at ten minutes past ten. In this position the mechanism is at rest and the correctors may be activated with no risk of damaging the calendar mechanism.

Use the correctors with great care (use the setting stylus delivered with the watch). Press on them until the adjustment has been completed.


## Procedure for corrections

Correct and set the following indicators, in order (see diagram):

1. Month and leap year cycle : set using the corrector (E) at 4 o'clock.
2. Perpetual calendar: set using the corrector ( F ) at 1 o'clock. This adjusts the leap year, month, date and day simultaneously.
3. Day: set using the corrector (G) at 11 o'clock.
4. Moon phase: set using the corrector (H) at 6 o'clock. To adjust the moon phase:
a) Display the full moon disc (the disc in which the moon is fully visible and which corresponds to the $15^{\text {th }}$ day of the lunar calendar).
b) Find out the date of the last full moon. Press the corrector push-piece (H) once for each day elapsed from the date of the last full moon to the date of the present day.

## 5. Setting the time:

If the present time is earlier than the time shown on the watch ( 12 o'clock), turn the hands counter-clockwise.

## Winding the watch

Your watch is fitted with a mechanical hand-wound movement.

We recommend that you rewind your watch completely every day at the same time (crown in position A). Take great care not to overwind (never force it when fully wound).

## Setting the time

Pull the crown to position B. You may now set the time by winding in either direction without risk of damaging the movement. Recommendation: make sure to set the time precisely by carefully moving the hands forward to the time desired.

## Warning:

- Never try to set the time when the striking mechanism is activated.
- Do not confuse noon and midnight.


## Time-zone adjustments

The ideal moment for correcting the perpetual calendar mechanisms is between 1 am and 6 pm .

If it is necessary to move the hands back after midnight, the date and the day of the week will remain one day ahead. This difference is temporary and does not require correction.

## Functions and use of the minute repeater

The Minute Repeater strikes the hours, quarters and minutes on request. Two tiny hammers strike a gong pitched low for the hours and high for the minutes; these two pitches alternate for the quarters.

Example: 3 hours 37 minutes


The striking mechanism is activated by means of the repeater slide (I) built into the left side of the case-middle.

A safety system makes it impossible to activate the striking mechanism if the slide has not been fully deployed.
N.B.: the extent of slide deployment depends on the number of hours to be struck.
N.B.: when the strike mechanism is activated, the slide should be completely free of all external constraints.


