

# REVOLUTION

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## Gruen Airflight Jumping Dial

VINTAGE

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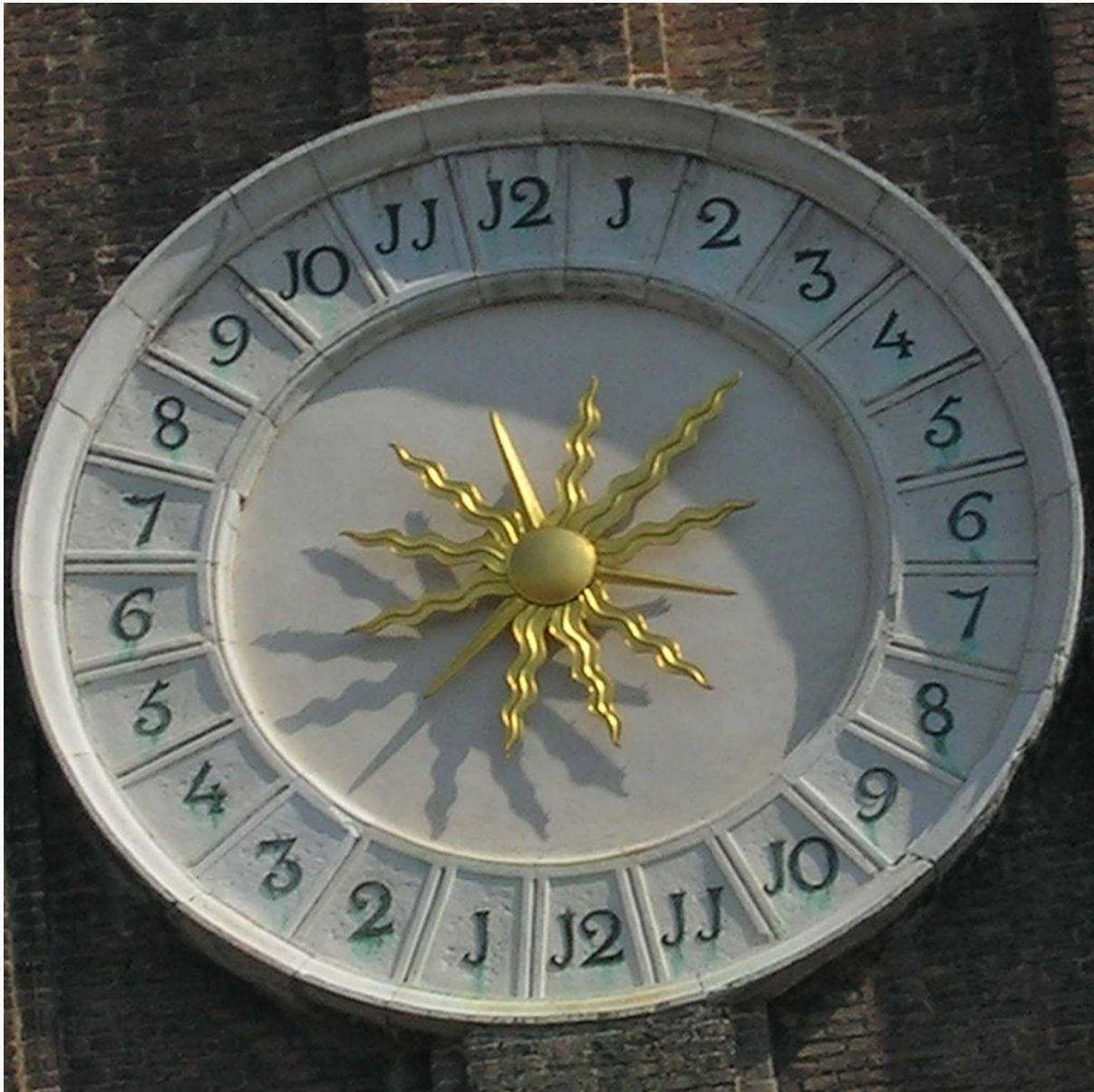
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Designed for pilots that needed a 24-hour reference for flight time, when the hands of the Gruen Airflight reach 1pm all the numerals jump to a 24 hour format and then jump back again to a 12-hour format at 1am.

A perennial problem in horology is the display of our 24-hour day on a face that traditionally shows only 12 markers. As far back as the ancient Egyptians and the Babylonians, time has been divided into 12 night-time hours and 12 day-time hours – or rather 10 daylight hours with a twilight hour at each end. With the development of clocks, this evolved into a counting system that ran from midnight to midnight with equal length hours throughout. The first clock faces still showed all 24 hours with either a 24 numbering scheme in southern Europe or a double-12

scheme in northern Europe, copying the tradition of sundials and astronomical observations.



Double-12 tower clock, Venice. (Image: Audriusa)

As clock faces became smaller and watches emerged, the legibility of the 12-hour dial meant that it became standard and suited the vast majority of daily uses. However, there are a few specialized situations and professions that require the clarity of a 24-hour display, such as pilots and military personnel. For these, a number of different solutions have been tried.

The simplest approach is simply to print a second ring of numbers around the dial showing 13 to 24. While it requires no modification to the movement, this does not specify which ring should be read and creates the possibility of confusion, although this problem could be solved with the addition of a day/night indicator. Copying the original tower clocks and showing all 24 numbers in sequence around the dial avoids any kind of confusion but the dial becomes crowded and counter-intuitive to read.

The most popular contemporary solution is the GMT hand. This allows the main hands to provide a familiar reading experience but the additional hand, making its slow 24-hour journey around the dial to confirm whether it is day or night, as well as opening the possibility of second time zones.

## **By the Dozen**

But one of the most charming solutions to the problem was presented by the US watch company Gruen with the production of its Airflight watch. As the name suggests, this was marketed towards pilots and aircrew and took the radical step of changing the entire number display twice a day.

Gruen has a fine watchmaking history. Founded in 1894, the company grew to become the largest watch manufacturer in the US by the mid-1920s. Movements were made in the US and Germany with later European production moving to Switzerland. The Airflight belongs to the later period of Gruen's history after the founding family had sold up and the company had entered something of a decline. But the watch demonstrated a spirit of innovation that still lived on despite the company's growing difficulties.

The principle behind the complication is simple: the dial has holes at the 12 number positions behind which sits a moveable ring. The ring shows the numbers from 1 to 12 behind the holes, while in the hidden spaces sit the numbers 13 to 24. A modified date mechanism comprising a snail

cam and a dual-sprung lever operates twice a day to move the appropriate numbers into view. Throughout the morning the watch appears entirely normal but at 12.59pm the mechanism shifts and the watch reads 13 round to 24 until 12.59am. You can spot a poorly serviced or adjusted example as they tend to shift at noon and midnight.



Produced sporadically from the late-1950s to the mid-1970s when the company closed, these watches never really caught on, as other GMT solutions were seen as more useful. The switching mechanism was prone to wear, especially on the snail cam, meaning that display transitions could become erratic.

From a collector's point of view, the charm and novelty of the Airflight is undeniable. The switching mechanism means the watch is 1mm in diameter larger than the more popular 34mm Gruen Precision, making it quite wearable by contemporary standards. Compared to the more mainstream vintage watches, this quirky little piece is very affordable, although prices for good examples are starting to rise. But just be careful to check the condition of the sprung levers as the main attraction of this watch is also its Achilles heel.

