

Jewels in a Watch

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Jewels in a watch have been incorporated since the beginning of 'time', and it would be surprising for an uninformed person, that these jewels are actually used to increase the efficiency of a watch rather than for show. The jewels are practical in that they are used as a part of the bearings of a watch to reduce friction between the moving parts and thereby increase its accuracy and lifespan.

The jewels (especially rubies and sapphires) are used where they do the most good -- in the escapement where friction has a major effect. To mount the watches into the escapement is a time consuming, painstakingly detailed procedure because the jewels have to be firmly set into place by screws so small that you need special equipment to do so.

Although a watch can have any number of jewels, a regular lever watch generally has 7 jewels; two each for the upper and lower balance pivots, one for the impulse roller, and the remaining two for the pallets. At some point during the nineteen fifties, a jewel craze came into existence, with about 75-100 jewels being used per watch. However, this had nothing to do with increasing the efficiency of a watch. It was only meant to turn them into a status symbol.

Tracing further back, up till the late 1800s, real rubies and sapphires were used in each watch, and this meant mining the earth for more of these natural resources in their impure forms. At the beginning of the 20th century, scientists came up with a method for artificially creating synthetic rubies and sapphires. This made it easier on the watch industry: now not only did watch makers have an abundant supply of jewels at a much lower rate, but also the synthetic jewels could be created without the natural impurities and mechanical flaws found in real jewels.

Until 1965, there was no policy regarding the use of jewels; anything could be used anywhere. Then, the ISO came up with standard definitions for the kinds of jewels used in watches. This definition clearly differentiates between a functional and nonfunctional jewel. Thus a functional jewel is defined as a "jewel that serves to stabilize friction and to reduce the wear rate of contacting surfaces of the components of a timekeeping instrument", while a nonfunctional jewel is one that is used for ornamentation.

So, if you want a good working watch look for functional jewels.{mosgoogle left}