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FINE VINTAGE WATCHES

Congratulations, you bought your first mechanical watch. That makes you the rightfully proud owner of more than just a timekeeper: that little disc on your wrist is an emblem of the culmination of art and science, a salute to man's ingenuity. Whether you wear it just for special occasions or it accompanies you during all of life's significant moments — and whether you paid a week's salary for it or a year's — it should serve you well, running trouble-free for many years. Set it and forget it. Strap it on and go. These are the pros of a mechanical watch.

But before you reap the benefits, there are a few things to keep in mind that will help keep that watch running flawlessly until you pass it on your offspring one day. Take some time to learn them thoroughly. Your timepiece deserves it.

The Birds and the Bees

The basic architecture of almost every mechanical watch for the past three centuries is the same, proving what a truly ingenious and efficient machine it is. Unlike a quartz watch, a mechanical timepiece doesn't get its energy from a battery. Instead, the power that drives the hands around the dial, and also drives any additional complications like a date function, a moonphase or a chronograph, comes from the unwinding of a tightly coiled flat spring.

How it Works, For Dummies

mainspring

1. A tightly coiled flat spring powers the mechanical watch.

escapement

2. This spring, left unchecked, would uncoil almost instantly. Instead, it is controlled by a series of toothed gears and an assembly called an escapement.

hairspring

3. The escapement is kept in check by a hairspring, the “heart” of the watch. It beats back and forth at a steady rate anywhere between 18,000 and 36,000 times per hour, giving a mechanical watch its precision.

4. Synthetic “jeweled” bearings minimize friction and are suspended to protect against vibration and shocks.

Left unchecked, this mainspring would quickly unwind and give up its energy in an instant. Therefore, the barrel that houses the mainspring is meshed with a precisely-sized geartrain of toothed wheels that terminates in what is called the escapement. The escapement consists of a wheel that is caught and released intermittently by a pivoting lever. The pivoting of the lever is controlled by a delicate spiral aptly known as the hairspring. This so-called “lever escapement” controls the energy release from the mainspring, feeding back this power through the geartrain, driving the hands of the watch to count out seconds, minutes and hours.

The hairspring is the heart of the watch; if you’ve seen a mechanical watch movement running, you’ll appreciate that metaphor, as the hairspring “beats” back and forth at a steady rate anywhere between 18,000 and 36,000 times per hour. The precision of the watch depends largely on the tension of this hairspring, as well as its resistance to temperature changes and magnetism. Most modern hairsprings are made up of a metallic alloy that compensates for temperature changes, and some made from silicon, which is immune to magnetism.

With all of these meshed gears and delicate springs, it’s a wonder these contraptions are as precise as they are. But a well-adjusted chronometer-grade movement can keep time to a 99.999% accuracy. But, as you might guess, friction and external shocks are archenemies of the mechanical watch movement. Friction is mitigated by regular lubrication and smooth “jeweled” bearings. Those red shiny discs you see in the bridges of a watch are rubies, formerly real ones, currently most often synthetic ones. The pivots of the gear wheels ride in the center of these rubies, which are polished smooth to provide nearly frictionless surfaces.

If there was no wiggle room for those delicate pivots, a sudden jolt from say, your arm scrambling eggs, could shear one off, a death blow to the movement. So the jewels are suspended in a floating frame that absorbs vibrations and shocks, saving the pivots from sure death.

All Wound Up

One of the beautiful things about a mechanical watch is that it requires interaction with its owner to function. That coiled mainspring will only provide power for a day or two (or sometimes longer) if you don't keep it wound. A handwound watch is the purest form of the mechanical timepiece, which is part of its appeal. The mainspring is wound, as the name suggests, by turning the watch's crown a few dozen times. While winding a watch is a simple process, there are a couple things to be aware of. First of all, wind the watch off of your wrist. While it may be tempting to give the crown a few twirls while you're surfing the Web at work, the angle can be awkward and put lateral stress on the delicate winding stem. Secondly, don't overwind your watch. You'll know when it's wound when you can't turn the crown anymore. This isn't like topping off your gas tank, so don't try to give it a little extra. Stop winding when you first feel resistance. Try to wind your watch once a day. A watch typically keeps best time when the mainspring is above half tension. The typical watch has about a two-day power reserve so winding it up before you strap it on each morning is a good habit to form.

(Hand) Winding Rules

1. Wind the watch off your wrist to minimize stress on the winding stem.
2. Don't overwind. Stop when you feel resistance.
3. Make a habit out of winding your watch every day before you strap it on. If it's an automatic, just strap it on.

The automatic, or self-winding, watch, functions as its name suggests. As long as you're wearing it, the mainspring maintains tension thanks to the weighted rotor in the movement that oscillates with your arm's movements. A slipping clutch prevents the spring from getting overwound. Unless you don't wear your watch daily or you're an extremely inactive person, you won't have to wind your automatic. But if you do, just give the crown 20 or 30 spins until the seconds hand starts moving, set the time and then strap it on. Unlike the handwound watch, you can't overwind your automatic, but don't overdo it — the winding mechanism in an automatic is typically less robust than that in a handwound watch and thus more vulnerable to breaking with careless or excessive use. Let the watch wind itself. And if you don't wear it regularly, invest in a quality watch winder.

Setting a watch is a pretty straightforward process, but it does have some dos and don'ts. The most important rule is not to set the date if the watch's time is between 9 p.m. and 2 a.m. Note that we said "the watch's time", not the actual time of day. If you pick up a watch that isn't running and you aren't sure when it stopped, pull the crown all the way out and spin the hands until the date changes. Then you've found midnight; next, advance the time past 2 a.m. before pushing the crown in to set the date. Why, you ask? The date-changing mechanism starts to engage the gear train after 9 p.m. and only disengages after 2 a.m. setting the date during this period can break off the delicate teeth of the mechanism, resulting in a costly repair. It's also a good idea to set a watch forward rather than running it backwards. This is, again, to prevent damage to the date mechanism. Of course, if your watch doesn't display the date, none of this matters.

Archenemies

As we mentioned above, the mortal enemies of a mechanical watch are moisture, shock and magnets. Fortunately, modern timepieces are pretty good at resisting all three. Synthetic gaskets, screw-down crowns and tight tolerances keep water out of a watch — assuming they're all in good shape. Most watches, even dress watches, are rated for water resistance to at least 3 atmospheres, which is equivalent to roughly 30 meters. That may sound deep, but it's nearly the minimum rating for a watch, so though your Patek Calatrava will probably survive a dunk in the pool at a bachelor party, we don't advise taking it for your daily morning swim. (For that, stick with a timepiece rated to at least 50 meters.) While screw-down crowns are the best insurance against moisture, even some 200-meter rated dive watches use robust double-sealed free-spinning crowns. Regardless, if you spend a lot of time in the water (by choice or by accident), it's a good idea to have your watch's water resistance tested annually, and to have gaskets replaced.

Mr. Twain's Watch Woes

"The watch averaged well, but nothing more. For half a day it would go like the very mischief, and keep up such a barking and wheezing and whooping and sneezing and snorting, that I could not hear myself think for the disturbance; and as long as it held out, there was not a watch in the land that stood any chance against it. But the rest of the day it would keep on slowing down and fooling along until all the clocks it had left behind caught up again. So at last, at the end of twenty-four hours, it would trot up to the judges' stand all right and just on time. It would show a fair and square average, and no man could say it had done more or less than its duty. But a correct average is only a mild virtue in a watch..." — Mark Twain, "My Watch — An Instructive Little Tale"

While the Incabloc and Kif shock absorbers in watch movements do a decent job of fending off life's unexpected blows, keep in mind that you are wearing a delicate precision mechanism on your wrist. We're known to subject our watches to a fair amount of punishment, but there are limits. Splitting wood, freeing a frozen bolt or golfing are activities for which a mechanical watch is not ideally suited. These occasions are perfect opportunities to strap on that quartz watch you've been neglecting and to leave the Speedmaster on your dresser — no matter how much testing NASA did.

Magnetism can cause the spirals of that delicate hairspring to "stick" together, shortening the spring and causing the watch to run very fast. Watch companies are making great strides in protection against magnetism, but the hairspring in most affordable mechanical watches remains vulnerable. Televisions, speakers and iPads all contain magnets that can affect the precision of your watch if you keep them in close proximity. If one day you find your normally reliable Breitling running five minutes fast, odds are it got zapped. Fortunately, demagnetizing is an easy fix, and one a watchmaker can do in less than five minutes. Still, preventing magnetism is even easier.

Tender Loving Care

Just a little attention and TLC will ensure that your pride and joy withstands daily wear and tear long enough to pass down to your heirs. Most watches nowadays have sapphire crystals, which shrug off knocks and resist scratches. However, some timepieces (like the Omega Speedmaster Professional and the Panerai PAM00372) have acrylic crystals in keeping with their retro aesthetics; or maybe you're wearing Grandpa's 1960s Rolex Datejust with its warm plastic dome. While acrylic can be a scratch magnet, it can also easily be polished. Automobile headlamp lens cleaner works; so does Brasso. If you want to be official, you can pop for a tube of Polywatch, which was designed for the job.

The No-Nos

1. Don't wind on your wrist.
2. Don't overwind.
3. Don't let your poor watch languish without winding.
4. Don't set the date between 9 p.m. and 2 a.m.
5. Don't set the time backwards.
6. Don't swim regularly in a watch rated for the minimum 30 meters.
7. Don't split wood, free frozen bolts or golf with it on your wrist.

8. Don't keep it in close proximity to magnets like those found in speakers, televisions, or your iPad.
9. Don't let your watch get gross. An old toothbrush and some running water are all it takes.
10. Don't ignore watch maintenance. Once every five years isn't much to ask, you cheap bastard.

Watch cases also get scratched unless you're OCD and your timepiece is a safe queen. Again, a little skillful polishing goes a long way. Invest in a watch polishing kit, which will include abrasive cloths in varying grades of fineness, to restore various finishes. In a pinch, a skillfully-wielded Scotchbrite pad will return your brushed Submariner bracelet to its original glory, though don't quote us on that. If you have a collectible vintage watch, keep in mind that original unpolished condition may be desirable. In this case, live with the scratches unless you don't intend to sell the watch.

Regardless of the watch you wear, if it spends any time on your wrist, expect it to collect enough of your DNA to rival a crime scene. So don't forget to clean it from time to time. An old toothbrush and some running water, especially on the caseback and around the strap lugs, will keep your watch nerd buddies from getting sick when they ask to see your classic.

Straps and, to a lesser degree, metal bracelets, are the more disposable components of a watch, but with regular care you can keep them looking good quite a bit longer. Rubber straps are durable and great for wet wear, but can degrade from exposure to the sun and from the application of bug spray, cologne and sunscreens. So keep them rinsed off and check for tears around the buckle and springbars regularly, lest you lose your Seamaster to the briny deep when you least expect it. Leather straps don't like water, but applying some leather oils and waterproofing products can protect long enough to get a few years out of them. With some simple polishing, a metal bracelet should last as long as your watch. No matter what you choose, keep a few extra sets of springbars around and a quality strap-changing tool (learn how to use it), especially if you like the swap straps often.

"Either this man is dead or my watch has stopped". – Groucho Marx

Everyone has heard stories of Rolexes and Seikos that lived through ‘Nam on the wrist of a Navy SEAL, then kept ticking in perfect time through subsequent decades of daily wear without maintenance. That doesn’t mean it’s good for the watch. As lubricating oils dry up, gear teeth and jewels wear out; this can cause what normally would be a routine service to become a major (read: “expensive”) overhaul. Most modern watches can go for a good five years before needing a visit to the spa. Given that, worn regularly, an escapement will see 700,000 oscillations per day, don’t you think a visit to a watchmaker twice a decade is well deserved? Watch maintenance can be expensive, but a mechanical watch is an investment — chances are, if you’ve kept it that long, it’s something you value and want around a lot longer. So bite the bullet and send it in. Anyway, it’s a good excuse to buy another watch to tide you over while it’s being serviced.

Still Ticking

Still with us? Good. Despite all our admonishments and rules, a mechanical watch is still one of the most reliable, personal devices you can own. Keep it clean, keep it wound, keep it dry, and one day you’ll be that old guy with the cool vintage watch. Taking care of it isn’t just to make sure it keeps telling time; it’s a show of respect for the tradition and craftsmanship that went into its making, a privileged relationship you have with one of the only machines that so intimately interacts with its owner. Take care of your watch, and your watch will take care of you.