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The clock appears to be over-wound. This is term that is often used to describe a clock that has stopped and yet appears fully wound. It is exceptionally difficult to over-wind a clock and very rarely happens. It is more likely that the clock has seized up and requires a service or overhaul. If this has happened, please take it to a professional clock repairer. The clock stops after only a few minutes (or does not run at all) If this happens it may be because the clock is what we refer to as being out of beat i.e the mechanism has not been leveled correctly. We often find that this happens when customers move a clock to a new location, and the clock is then sitting at a different level. You can tell if this is the case by listening to the sound of the tick. The tick tock should be even (the time between the tick and tock should be the same and not demonstrate a skipping sound). For a wall clock, move the bottom of the case slightly to one side or the other to see if this corrects the beat. If the beat is correct but the clock stills stops, then the clock will need to be taken to a repairer. Other causes of this fault could be that the pendulum is rubbing on the back of the case or one of the hands is rubbing on the glass door. The clock stops 5-10 mins after or before the hour This may also be caused by the strike mechanism jamming. In this case try to take the minute hand back a full 20 minutes and then slowly move the hand forward. (Again, if the hands lock while you are doing this stop and speak to a specialist clock repairer). If this problem continues to develop, take your clock to a specialist clock repairer. The clock does not keep the correct time runs fast or slow To alter the timekeeping of the clock the pendulum bob needs to be adjusted. This is done by turning the screw/bolt which is located below the pendulum bob. If the clock runs slow turn the bolt to the right. This pushes the bob up the pendulum rod and increases the speed of the clock. If the clock runs fast, turn the bolt to the left. It is advisable to make one small adjustment and then leave it 24 hours before making another adjustment. The clock appears to be over-wound. This is term that is often used to describe a clock that has stopped and yet appears fully wound. It is exceptionally difficult to over-wind a clock and very rarely happens. It is more likely that the clock has seized up and requires a service or overhaul. If this has happened, please take it to a professional clock repairer. Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. 1. Voltage Output: Quartz clocks are designed to run specifically on 1.5 volts, the standard output of an alkaline battery. Some battery types, like rechargeable NiMH or NiCd cells, may discharge a voltage as low as 1.2 volts when under load, likely causing a quartz clock to run slowly or not at all.2. Discharge Curve: Different types of batteries have different discharge curves. Alkaline batteries maintain a very stable voltage for most of their life, then drop off sharply at the end. In contrast, some batteries have a more gradual voltage decline. Quartz clocks will not function correctly as the battery voltage falls below a certain threshold, which can occur more rapidly with batteries not designed for steady, low power devices.3. Internal Resistance: Some batteries have higher internal resistance, which can affect their ability to deliver the necessary power, especially in low drain devices like quartz clocks. This resistance can lead to a voltage drop under load, causing the clock to lose time or stop.4. Chemical Composition: The chemical makeup of a battery affects its voltage, capacity, and discharge profile. For example, zinc-carbon batteries, while nominally 1.5 volts, may not provide a consistent enough voltage for precision devices due to their poorer performance and shorter lifespan.5. Quality and Brand Variations: Not all batteries are created equal. Lower quality batteries, even if they are the correct type, may not deliver their stated voltage or maintain it consistently over time. This variation can result from differences in manufacturing quality, storage conditions before use, or simply the brand's technology.High quality, high energy alkaline batteries are the only solution for quartz clocks, as they are designed to offer the consistent voltage and long life needed. Ensure the battery is correctly inserted according to the '+' and '-' indicators in the battery compartment. It sounds simple, but reversing the polarity or a loose fit can lead to performance issues. A firm and correct placement is key.Note: Even if an old battery works in another device, it might not power your clock. It may be the wrong type, or depleted below necessary threshold to provide the specific voltage for a quartz movement.These recommendations aren't meant to undermine your efforts or suggest you haven't already attempted to rule out using the wrong type of battery. Rather, they're based on our extensive knowledge in the manufacture of millions of clocks over decades, and often receiving clocks with batteries that are nearly depleted or unsuitable brand/type. We're focusing on this common resolution first, to save you the inconvenience of packing up and returning your clock, which we understand can be quite a task.We find that in most cases, a fresh new, high quality high power alkaline battery resolves the matter. Ok another give away article robbing myself of a days work!If your clock doesnt work then cleaning it is a good first step to establishing what the problem might be. You need the thing to tick over under its own steam to diagnose problems beyond cleaning so its pretty much always the first job on the list. Any clock repair is going to involve this.Almost all clock hands are held on by one of two methods and you have to get them off to remove the movement from the case.If its a lynch pin fixing then do the following. You need to remove the lynch pin that is threaded through the centre spigot. Whats not obvious is that this pin is usually tapered. This means its thicker at one end and will only be removable from the thick end. Get a magnifying glass on it and decide which end it is you want before you try to remove it. Now put a lynch pin cardboard template over the face to avoid scratching it if you slip while removing the pin. You can make one by cutting slit to the centre of an A4 card or paper and then slide it onto the face with the spigot sticking through the slit. Now use pliers to remove the pin. The hands will be friction fit so you can just pull them off. Dont use pliers if they are stiff oil and a firm grip with your hands through a thin polishing cloth will do it. If its a screw fitting then simply unscrew it and pull of the hands as above. Its a normal thread not a reverse one. If you snap off this nut then the clock is screwed so dont!. If its stiff then get some long handled long nosed pliers and twist it by 5 degrees enough to loosen it but not enough to torque snap the spigot.Ok once the hands are off you can remove the movement. If you look in the back of the clock you will see its held in by four screws, one at each corner that are normally on extension arms. You should now simply be able to pull the clock movement from the rear of the clock. If your clock has a chime bar that appears to be getting in the way do not try and wiggle it past you will damage the chimes. Remove the chime bar by unscrewing the fixings that are normally on the outside of the case underneath although some are fixed internally. My point is that it needs come out even if you can get the movement out without doing so because its fragile and gets easily caught by the snaggy and nature of clock movements generally.Ok you have the clock movement out. Now the bad news. You have limited options without disassembling the clock completely and taking the plates apart. Ill come to how you can avoid this but generally speaking you need to get the plates apart for the following reasons.Its the best way to get at the spigot holes cleaned.If you just put it in a bucket of hot soapy water then water gets into the spring barrels. Unless you oven dry the clock after this the springs will rust and your clock is in very bad shape with an expensive repair bill!You probably dont want to attempt to get the plates apart so heres a cheat!What you can do is immerse the clock upside down so only half the clock (without the spring barrels) is cleaned. This seems a bit bodge (and it is!) but it will partially clean the wheels at the top of the power train which are most sensitive to dirt. Essentially you are attacking your problems worst effected area in doing this partial immersion. It wont get a really dirty clock going again but it will give a lightly soiled clock another couple of years service before it needs it doing properly by somebody like me. If you have a low value clock you want to repair get going just because you feel like it this is a great way of making fast cheap progress.Once youve soaked the movement top in soapy water then do you can to carefully brush off any dirt with a clean paint brush or ideally jet spray of some sort. You want to avoid putting anything rigid inside the movement as you will snag or force something and its game over. Once youve done what cleaning you can then you need to rinse the area that been submerged in boiled kettle water (careful not to get any in the barrels). Kettle water has the minerals such as calcium carbonate partially removed so any residue left by the drying water will be kept to a minimum.Now oiling.You need to use clock oil. I get all mine from Priory Polishes which is an old fashioned business with all the right stuff. I wont recommend specific products but have a look at the site as they do all sorts of restoration reagents including amonia based cleaning agents you can use for your immersion clean. Heres a link you cant go wrong with this company and Paul there makes up a lot of his own chemicals to do an uber job. Hes well known in the clock trade and its where those who know go I have to say that the best advice is to send the clock to me for a service because Ill do the springs for you as well. A lot of the time the main issue with failing clocks is that the main springs are worn down and are not delivering the power the clock needs to run efficiently, if at all. If a clock has been left standing fully wound but not running for a few years the springs take the form of the arbour they are tensioned on an lose power I see a lot of that. Servicing isnt particularly cheap, or that expensive either so I now recommend a full set of springs on every service I do on mantle clocks. If you do that you really see and hear the difference and its cheaper in the long run which is what you want if your going to spend a fair amount of money anyway.Hope this helps your DIY efforts you know, as always, if you mess it up I can sort it out. Clock mechanisms are intricate and delicate, but repairing them is often achievable with the right tools and technique. Whether youre dealing with a cherished antique or a modern timepiece, this step-by-step guide will help you diagnose and fix common issues with clock mechanisms. Follow these instructions to restore your clock to its former glory.Step 1: Gather Your Tools and MaterialsBefore you begin, ensure you have the following tools and materials:Screwdrivers: Various sizes, preferably with a set of precision screwdrivers.Tweezers: For handling small components.Clock Oil: Specifically designed for clock mechanisms.Magnifying Glass: To inspect tiny parts.Cleaning Supplies: Soft cloths and a mild cleaner.Replacement Parts: If needed, based on your clocks make and model.Step 2: Remove the Clock from Its CaseTo access the mechanism, carefully remove the clock from its case.Unfasten the Back: Depending on the clock design, you may need to unscrew or pry off the back panel.Lift Out the Mechanism: Gently lift the clock mechanism out of the case. Take note of how its positioned, as youll need to reassemble it later.Step 3: Inspect the MechanismHow to Repair a Broken Clock Mechanism: A Step-by-Step GuideExamine the clock mechanism for visible signs of damage or wear.Check for Broken Parts: Look for any cracked or missing gears, springs, or other components.Assess the Movement: If the clock hands are stuck or moving irregularly, it may indicate a problem with the gears or escapement.Step 4: Clean the MechanismDirt and old oil can hinder the clocks performance. Clean the mechanism as follows:Dust Off Debris: Use a soft brush or compressed air to remove dust and debris from the mechanism.Wipe Components: Gently wipe the components with a soft cloth dampened with a mild cleaner.Avoid Excessive Moisture: Ensure that no moisture gets inside the clock mechanism.Step 5: Lubricate the MechanismProper lubrication is crucial for smooth operation:Apply Clock Oil: Use a small amount of clock oil to lubricate the gears and moving parts. Avoid over-oiling, as excess oil can attract dust.Work Oil In: Move the gears manually to distribute the oil evenly.Step 6: Reassemble the MechanismOnce cleaned and lubricated, reassemble the clock mechanism:Position the Mechanism: Place the mechanism back into its case, ensuring it aligns with the mounting holes or supports.Secure the Case: Reattach the back panel or cover, making sure all screws or fasteners are tightened.Step 7: Test the ClockAfter reassembly, test the clock to ensure its working properly:Set the Time: Adjust the clock hands to the correct time.Monitor Performance: Observe the clock for a few hours to ensure it keeps time accurately and runs smoothly.Step 8: Troubleshoot Persistent IssuesIf the clock still doesnt work correctly, troubleshoot common problems:Check for Obstructions: Ensure no parts are obstructing the gears or movement.Inspect for Misalignment: Verify that all components are correctly aligned and securely in place.Replace Faulty Parts: If specific parts are damaged or worn, consider replacing them with compatible components.Step 9: Seek Professional HelpIf youve followed these steps and the clock is still not functioning properly, it may be time to consult a professional clock repair technician. They can provide expert diagnosis and repair for complex issues that may require advanced tools or techniques.ConclusionRepairing a broken clock mechanism can be a rewarding and satisfying process. By following this step-by-step guide, you can address common issues, clean, lubricate, and reassemble your clock to restore its functionality. Whether youre a DIY enthusiast or a clock collector, understanding these basics will help you maintain and enjoy your timepieces for years to come. Use your fingers to pry up one end of the battery and remove it from the clock. Clean the battery terminals in the battery compartment using isopropyl alcohol and a cotton swab. Dry the battery terminals with a clean cloth or paper towels so the terminals are not wet when a new battery is being inserted. Once the terminals have dried up, remove the glass lens covering the faceplate of the clock to make any adjustments. Turn the display face up, ensuring the clock hands do not touch each other. Correct the time by moving the hands of the clock and inserting the new battery. Put the faceplate back on and assemble all of the pieces of the clock. Conclusion To reassemble your device, follow these instructions in reverse order. Choose a size and copy the code below to embed this guide as a small widget on your site / forum. Author: Clock Shop Date Posted:15 May 2021 D.I.Y Guide Do you have a sentimental wall clock in your home that stopped moving many years ago and is now sitting there gathering dust? Or perhaps youre making a new wall clock and you just dont know where to start in order to choose the correct clock mechanism? Quite often, the process of diagnosing and repairing battery operated wall clocks is much easier than it seems, though at first it can seem quite daunting. Here at the Clock Shop we frequently receive phone calls from customers seeking assistance to identify what clock parts are required to fix broken battery operated wall clocks, as well as ordering replacement parts such as movements. This area has seen huge growth since the beginning of the Covid-19 pandemic as more and more people have taken up crafts and hobbies, as well as the boom of work from home jobs. Often the case is as simple as replacing an old battery, or replacing the clock movement which may have either outlived its lifespan or have become damaged or corroded in some way. To help streamline the process, we have created a step by step guide to diagnosing and fixing your battery operated wall clock. Please note: If you're looking for a step-by-step guide with visual aids on how to replace your clock movement please check out our guide - Step-By-Step DIY Clock Movement Replacement Guide What is a Battery Operated Wall Clock? By definition, a battery operated wall clock is a clock that operates via a small black mechanism on the back of the clock, known as either a clock movement, mechanism or a motor. This mechanism helps to keep the time. The most common type of wall clock on the market is a quartz clock, which utilises a small quartz crystal/oscillator with electrical currents that maintains accurate time by pulsing every second. The mechanism (otherwise known as movement) in a quartz battery clock is much simpler than a traditional wind up clock, and their frequency is stable over a variety of temperatures, humidities and external conditions. For this reason, battery operated wall clocks keep very accurate time, as opposed to a wind up clock which may lose or gain minutes as due to external conditions such as fluctuations in temperature. On average, a clock movement lasts for approximately 10 - 15 years, though often these movements can be faulty and need replacing much earlier than this. If the movement on your wall clock requires replacing, often the job is quite simple and only requires a new movement, some tools and a keen eye. Below we have compiled a step by step DIY instruction manual to assist you in diagnosing and repairing any battery operated wall clock that may have stopped working, via a process of elimination. Step 1. Replace the Clock Battery If your battery wall clock has stopped working, the first step would be to try and replace the battery, which often could have simply lost its charge- make sure to replace the original battery using a high quality battery that will last a long time. We suggest you use an alkaline battery in your clock movements. The battery compartment will be found on the back of the clock, housed inside the movement. Remove your old battery and if necessary, clean the terminals- checking for any corrosion or battery acid that may have leaked inside the battery terminals, and cleaning with a damp q-tip or cotton ball, before drying thoroughly. Quite often, the internal clock mechanisms such as cogs, springs and clock movements are not affected, and simply replacing the battery is an easy fix. Most battery operated wall clocks require a single AA battery, unless it has a high torque movement (more on this later), in which it may require a C battery. If you have replaced the battery and your clock still does not work, proceed to step 2. Step 2. Determine the correct movement for your clock Determine if you need a standard movement or a high torque movement. This is based on the length of the minute hand. To measure this, measure from the central hole where the hands attach to the shaft, all the way to the tip. Whilst measuring the length of the clock hands, you need to identify their exact length as this in turn determines the movement required. If the minute hand is over 150-160mm in length (measuring from the centre to the very tip), it is best to use a high torque movement, which is geared differently than a standard movement. A high torque movement needs a movement that is capable of driving larger and heavier hands around the clock. If your minute hand is under 150-160mm in length there are a range of different movements that could be suited to your clock with the most common two types of movements being a press fit, and a euro shaft movement. Also check to see if your clock hands tick or move continuously? If the hands tick, this is known as a step movement; whereas if the hands move continuously around the dial with no sound, this is referred to as a sweeping movement. From here, take note of the hands of the clock. This will help you identify whether you have a press fit or a Euro Shaft movement. Your original clock hands will tell you a lot about what movement they fit on to. A brief outline of the two types of movements are listed below. Press Fit Movement - In a press fit movement, the hands push on to the end of the shaft of the clock using friction. These hands will have an exact circular hole at the point where it attaches to the shaft or in some cases what looks like a hexagonal style hole to push onto the round shaft. The hour hand pushes on first followed by the minute hand. Euro Shaft Movement (otherwise known as i shaft) - In euro shaft movement, the minute hand is held on with a nut. The hour hand will have a circular hole at the point where it pushes on to the shaft, whilst the minute hand looks slightly different - it has a slotted hole with 2 flat sides that have to line up with the same shape on the movement itself. It is very important to ensure you have selected the correct part. If you are unsure, the best solution is to purchase a complete kit including new hands with your replacement movement. Once you have determined which movement you require using the hands of your clock, move on to Step 3. Step 3. Determine the shaft length you require The shaft length correlates to thickness of the dial and the material that your movement is going through from behind the clock, through the dial and to the hands on the front. There are limited shaft lengths for high torque movements. In order to measure the shaft length, you need to remove the existing movement from the clock and measure the thread length as well as the overall shaft length. There is no one size fits all here. Measure the shaft length of your clock mechanism, all the way from where the shaft extends from the black movement body to the very tip of the entire shaft. It is important to note not to simply measure the brass threaded part as this is only one part of the entire shaft length, but rather to measure the entire length of the shaft. There are a number of different shaft lengths ranging between 7mm to 30mm. The shaft needs to fit through the dial of the clock, and the movement sits either underneath or behind the dial, with the shaft poking through the dial. Step 4. Order Your Replacement Clock Parts Order the correct parts for your particular battery operated wall clock using the information gathered from steps 1-4. In order to avoid additional shipping charges for incorrect items, it is important to ensure you have the correct specifications and information prior to placing an order. Usually these replacement parts are inexpensive. If you have attempted steps 1-4 and still are not sure about the correct movement you require, you can post your old movement directly to the Clock Shop, who will identify the correct part for you and send an invoice for replacement. This is an inexpensive way to replace your clock movement, however it is often faster and easier to identify the mechanism yourself, as well as saving money on freight costs. An additional option would be to book your clock in with our onsite clockmaker Bruce Davis, who can also assist with such enquiries. Keep in mind that this step by step DIY process only works for battery operated wall clocks - if you own a cuckoo clock or a grandfather clock, these have an entirely different method of repairing broken parts, and are often more technical than battery operated wall clocks. Step 5. Changing Your Clock Movement Assuming the movement of the clock needed to be replaced, the old one will now have to be removed, keeping in mind that every clock is different. Generally you will have to unscrew the movement from the front of the dial, and remove the casing at the back. Identify if your clock has a glass lens that covers the dial. If it does, work out if you need to remove the bezel on the front to access the hands, or if your clock comes apart from the back. Sometimes the clock is held together with spring clips at the back and by removing these you can gain access to the hands. You will need to take note of the space between the dial and the lens / glass. If you order a movement and the shaft is too long the hands may touch the glass, and as such, the clock will not keep the correct time or stop altogether. You will need to be extra certain that you order the same shaft length. 5.a Changing a Press Fit Movement The first step is to get the clock mechanism out of the frame- you need to be able to access the hands in order to release the movement. Generally, the second hand in a press fit movement will always just pull off and push on using friction, regardless of what type of shaft you have. If you have a hex nut then loosen with pliers then the movement will come free with the clock. Sometimes the movements will be housed in the back of the clock to stop them moving around. Check for any dust or build up in the movement itself, carefully cleaning if necessary. Replace the required movement back into the clock, fix with a hex nut (finger tight), then push the hands back on, ensuring the hands are all lined up at 12 o'clock and parallel to each other, allowing a tiny bit of space (1mm) between the hands to ensure they do not touch each other as they spin around. Replace the battery and reset the time. 5.b Changing a Euro Shaft Movement The first step is to get the clock mechanism out of the frame- you need to be able to access the hands in order to release the movement. Generally, the minute hand in a euro shaft movement will always be fixed on with a little nut. Unscrew this nut, and unscrew any collars keeping the movement in place, before removing the movement from the back of the clock. This may require a screwdriver to do so. It is important to note that if you have glass on the clock, you must adhere to the correct shaft length. Check for any dust or build up in the movement itself, carefully cleaning if necessary. From here, replace the movement and rescrew the original collar on to the new movement, before fitting it back through the clock. Then fit the hour hands first, ensuring to line them up with the 12 oclock position. The minute hand then needs to line up with the profile of the minute hand shaft, which will be friction fit. Once this is all placed, screw the nut back on and set the time. 5.c Some Tips For Changing A Clock Movement Take note of exactly how you disassemble your clock, as you will need to reassemble it in the same way once you have replaced the movement. In some cases, your clock may have a housing that the mechanism clips into and therefore does not require any fixing from the front of the dial. There are some unusual cases where the movements are glued in and may require some careful tool work to remove the movement. Be careful not to damage the dial as you remove the movement. Please note, there are other mechanisms that dont have a threaded shaft. Generally these are either very short shafts and dont require a hex nut to fasten the movement, or they use a different system to fix the movement to the dial. German made movements, such as UTS, HERMLE and JUNGHANS use a central fixing nut that screws from the front of the dial through to the movement behind the dial. These movements require a larger (10mm) hole in the dial and careful attention is required to choose the correct shaft length. Summary Hopefully by now you have diagnosed and repaired your battery operated wall clock, using our step by step instructional guide. If you require additional help, please don't hesitate to get in contact with our friendly staff at the Clock Shop who would be happy to assist. Please also read our step by step instructional blog with pictures that guides you through each step, as well as a supplementary video as shown below. Supplementary Video

How to mend a clock mechanism. How to fix a simple clock mechanism. How to fix a quartz clock mechanism. How to fix a battery clock mechanism. How to fix a broken clock mechanism. How to fix a clock mechanism on a wall. How to fix a clock machine. How to fix a clock. How to open a clock mechanism. How to fix a battery operated clock mechanism.