



MAN CRATES  
PROJECTS

# A MATTER OF TIME

DIY WATCH MAKING GUIDE



MAN CRATES

Time is a fickle thing. It supposedly flies when we're having fun, but crawls during the last few hours of the work day? What, did it lose its wings or something?

If only there was a way to measure time, conveniently and accurately, with some sort of instrument dial on our wrist. Just kidding, we know you know about watches. But did you know that you can build one with just some concentration, a little elbow grease, and this Watch Making Kit?

Ready to get started? It's about time.





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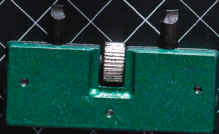
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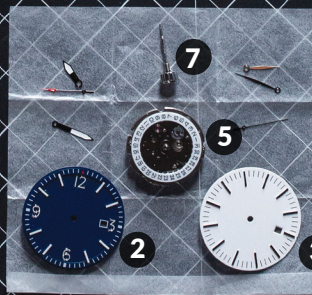
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## *The Movement*

A movement is the heart of any watch. It's the delicate mechanics that keep the hands turning, and keep you on time. This automatic mechanical movement has no battery, but the finely tuned gears, springs, and gems make the watch tick. Unlike purely mechanical movements, this one is self-winding, meaning the normal movement of your body will wind the spring, which keeps it going and going and going.

## *The Watch*

You get to decide how your watch will look. We've included two complete sets of dials and hands, and you should combine them to your taste. The kit comes complete with a movement holder, clear exhibition backing, a pre-mounted crown and stem, and all the tools you'll need to assemble a handsome watch that's water resistant up to 50 meters.

## *The Band*

Your watch wouldn't be complete without the band. We've included two differently colored, Oxford Excel oil-tanned leather strips, and the hardware and tools to turn them into excellent and durable straps.

**Note:** You'll also need Scotch Tape and a utility knife handy to finish this project.

Step 1:

# ATTACH THE DIAL

Before getting started, find a large and well-lit workspace. This kit includes very tiny pieces and screws which can get easily lost. Clear a desk and wipe it clean of all dust and debris. Organize your tools, and resist the temptation to open the bags of parts before you're ready to use them.

First, select the dial you'd like to use for



your watch face. Then, gently pull off the temporary second hand that comes installed on the movement.

Note that there are two “feet” on the back of the dial. There are two positions on the movement that these posts insert into. They both have tiny screws in the side of the movement that need to first be loosened. Use the screwdriver to loosen these screws,

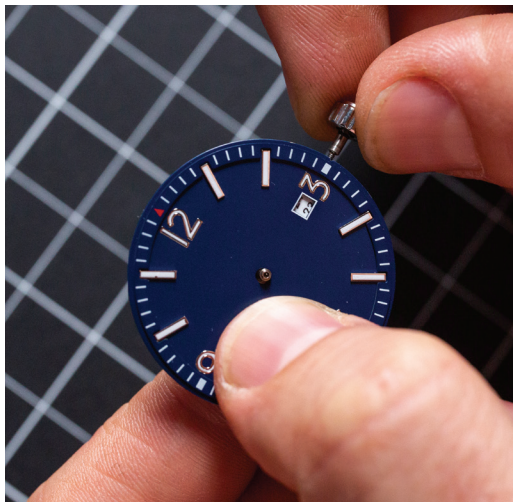
then gently seat the dial onto the movement and retighten the screws.

Don't force it, or you may break the posts.

Awesome job. Now, it's time to set the date tracker and time. The movement has a temporary crown and stem already attached. Pull the crown out two clicks until it adjusts the date when turned.

Turn the crown until the date changes, which, if our calculations are correct, should be at midnight. Stop turning, and leave the time set for midnight. This is the time we'll use for installing the hands.

This is a "hacking" movement, which means the second hand will stop ticking while you're setting the time. Leave the crown pulled out to stop the ticking while you're setting all the hands onto the dial.



**PRO-TIP:** Leave the plastic movement case on whenever possible while working. This will protect it from dust, as well as your grubby fingers

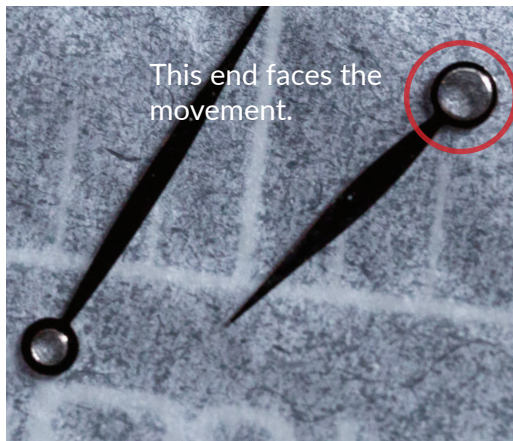
Step 2:

# INSTALL THE HANDS



We're ready to set the hands! Use that piece of Scotch Tape we mentioned earlier to pick up the tip of the hour hand. If it's been a while since you've used an analog clock, the hour hand is the shortest one. Next, set the tip to point toward 12:00. Gently align the center hole of the hands onto the center post of the watch movement and let it fall into place.

If you're not sure which end is up on the hands, the lip that extends off the center of the hand faces down.



**PRO-TIP:** If you make a mistake and want to remove the hands, don't try to lift them off by pulling on them. Rather, pull off the dial and it will pull the hands free. Be extra careful to make sure they don't go flying and get lost.



Next, we're going to use the watch hand setting tool to permanently set the hour hand. You'll want to use the black end for this part. Take your time if you expect your watch to correctly keep time for you. Make sure the hole and the post are aligned before applying pressure to lock it in.

**IMPORTANT: DO NOT PRESS ALL THE WAY DOWN.**

You should be able to see light between the dial and the hour hand. If you press



too far, remove the dial. This will force the hour hand off of the center post.

Set the minute hand using the same procedure as before. Use the tape to pick up the hand and lay it onto the post. Use the black side of your hand-setting tool again to press the minute hand in place.

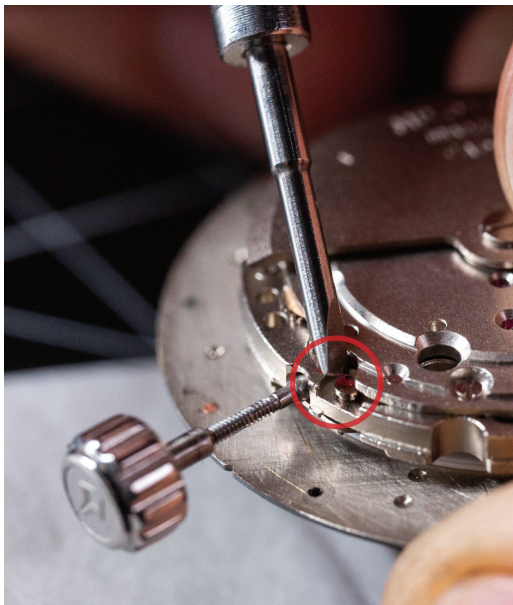
Finally, use the white end of the tool to set the second hand. This one fits onto a very delicate post in the center of the movement, so be very gentle to avoid bending or breaking this post. It will only take slight pressure to set the hand.

All your hands are set. You can use your crown to check the rotation of the hands. Make sure they don't collide as they pass one another. Finally, make sure that all the hands align perfectly at midnight. Gently push them into alignment if necessary.



Step 3:

# ASSEMBLY



Next, you'll need to remove your stem/crown assembly. Locate the dimple push button on the movement where the crown inserts into movement. This is a good time to get an extra set of hands from a friend.

Hold the dial on the edges to avoid any pressure on the hands, then have a friend use the screwdriver to press the release button while gently removing the temporary stem. The crown needs to be pushed all the way in before it can release. Don't force it. It should release and come out easily. The **temporary stem and crown** can then be discarded.

**PRO-TIP:** The crystal in the front of the case will magnify the dial and hands. It'll also magnify any scratches or dust trapped inside, so spend extra time carefully dusting and cleaning before completing the assembly.

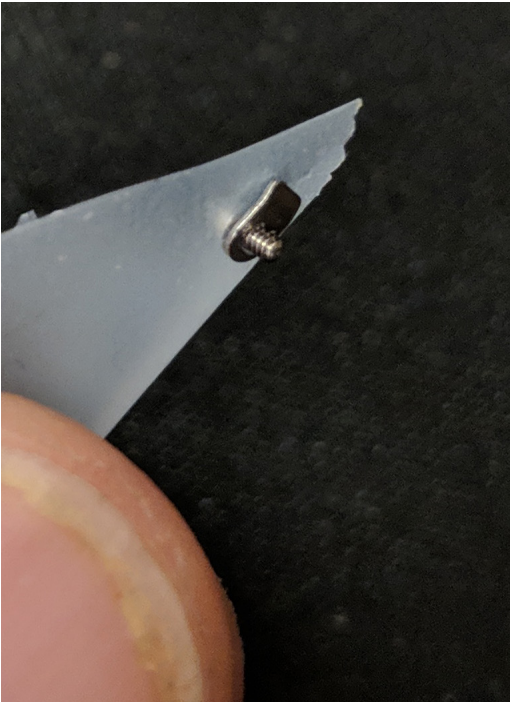


Then, while holding the movement, set the case down onto it. Look through the crystal to inspect for lint and dust. If you find any, remove and clean until you're satisfied.

Place the movement into the watch case and align it to the correct orientation. Next, we'll install the movement holder.



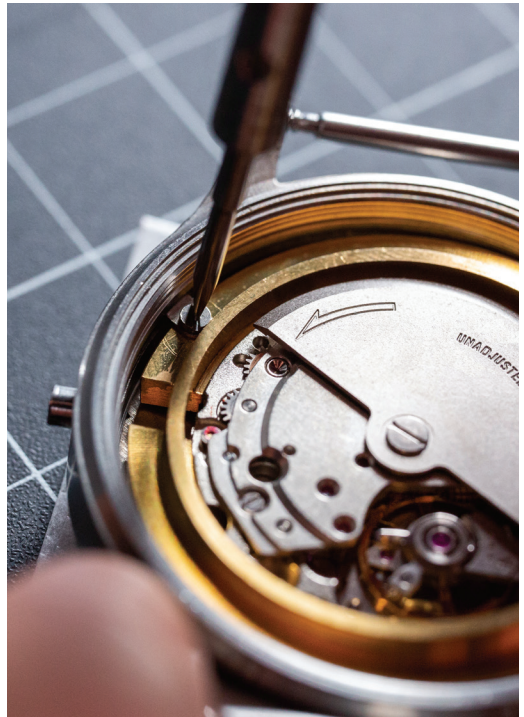
To install the brass movement holder, first attach the two screws and tabs. This is probably the most difficult step. Start the screws while the movement holder is outside of the watch case, not around the movement. That way there's no risk of dropping a screw into the movement. The tab should curve upwards (toward the top of the screw).



It can help to use tweezers or tape again to hold the screws when getting them started. They're easy to lose, so be careful.

To use tape, poke a small hole in a piece of scotch tape and poke a screw through it. Then, place the tab over the screw and stick it onto the tape. Use this to hold and align the screw while you get it started. Then simply tear the tape free.

Maneuver the tabs so they don't hang over the edge. Then, screws facing up, set the movement holder into the case and around the movement. Rotate it so the cut-out for the stem is in line with the opening for the stem in the case. If you turn it over, the dial should be oriented with stem opening at 3 o'clock.

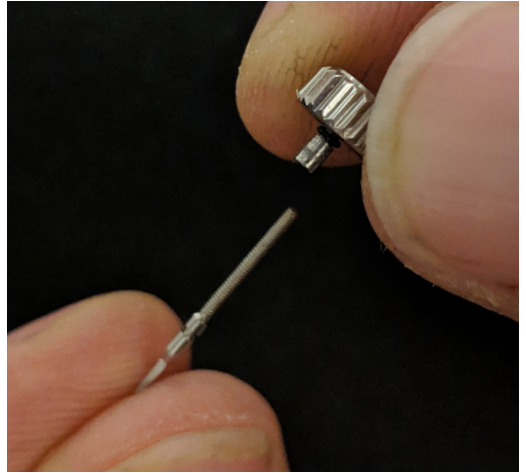


Rotate the movement tabs outwards. There's a groove inside the wall of the case that they should slide into. This is what will hold the movement in place.

Make sure the tabs are straight out, then tighten the screw down slightly. Before tightening completely, double check that the stem cut out is centered.

Finally, we'll need to put in the final crown and stem. Find the large metal crown and the trimmed stem. The final crown is larger than the temporary one and has a rubber gasket.

Screw the final crown onto the trimmed stem (you may need pliers to hold the stem). Once it is snugly attached, insert the stem into the movement. You will not need to press the stem release on the movement, but you may need to turn the stem as you insert it until it slides in smoothly and locks into place.



## Step 4:

# FINISHING

Now that your watch is fully functional, you can close it up. Both the watch backing and the crown have rubber gaskets installed in them to make your watch water resistant.

Screw on the watch back with your fingers to ensure it's threaded properly. Then, use the back tightening tool to tighten it until you have a snug seal.

If your watch stops, you'll need to wind the spring. Simply make sure the crown is pushed in all the way, then turn the crown clockwise ten to fifteen times to wind the spring. You should see the second hand begin to move immediately.

As you wear the watch, a weight on the back of the movement will spin, which will continue to wind the spring from your movements. Pretty cool, huh? If you take the watch off for a few days, just wind it up again to get it going.

To set the date, pull the crown out from the case until you feel it click once.

Then, turn the crown counterclockwise to move the date counter. Proceed to set the watch to the appropriate date.

To set the time, pull the crown out again until it clicks a second time. Now, when you rotate the crown, the minute and hour hands will move and you can set the time. Once finished, push the crown back into its original position.





## Step 5:

# STRAP

First things first: choose which leather strap you'd like to use as a band. Of course, if you're decision-making averse, you can always choose both and swap them out to fit your mood or attire.

Each strap will have a hole with a slot punched on one end. That's the end we'll loop over the button stud to secure the band.

Start by using the strap to measure your



wrist. Wrap it around your wrist until it's snug, but comfortable. Then, use a pencil to make a mark on the strap through the pre-punched hole.

Using this position as the center, mark spaces for 2 additional holes in both directions. Space them 4-5 mm apart.

Using the provided hole punch and a hammer, punch holes in the marked positions. Make sure to punch on top of a surface you don't mind scratching up, like a cutting board.

Leave about a half-inch of extra leather extending past the last hole, then cut the strap to length. Using a razor blade or sharp knife, cut the ends of the strap to your desired shape.

Finally, install the button stud by placing the leather in between and screwing in the back. Install the stud in the initial center hole, which you've already marked. If you need to adjust the size, simply move the button stud.

Install the band onto the watch. You might need some small pliers, and that's okay. Fingers come in all shapes and sizes. Grab one end of the spring bar with the pliers and pull toward you to compress the spring. Once compressed, the bar can be inserted. Pass the band through the guides on the case and install the springbar.

Repeat the process with the other springbar to finish the assembly. The stud should be on the short side of the strap. Wrap it around your wrist and secure the pre-punched hole over the stud.

And we're done! Right on time.



# SPECS



**BPH (Beats per Hour)** : 21,600

**Jewels** : 21 (synthetic ruby)

**Maximum Power Reserve** : 36 hours

**Accuracy** : +/- 10-35 seconds per day

**Shock Resistance** : Incabloc shock resistance

**Winding Type** : Automatic (self-winding)

**Strap Width** : 20 mm (13/16")

# SHARING



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