

Choosing The Correct Clock Kit When Making a Clock



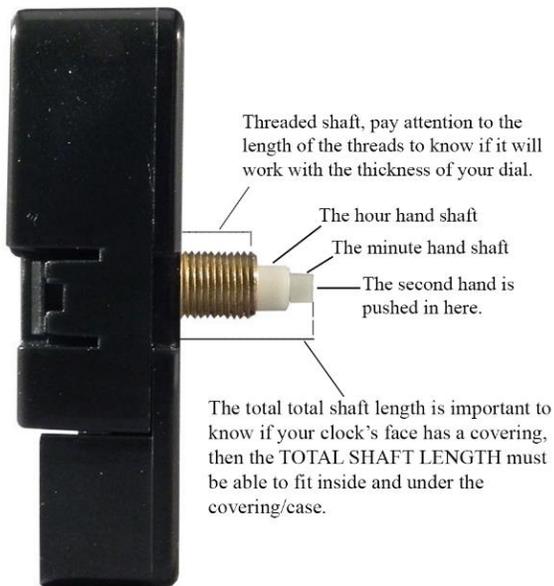
If you need to either replace an old movement in your clock, or you need to make your own clock from scratch, then there are a few things you need to know to get the right clock kit for your project.

UNDERSTANDING CLOCK TERMS:

First you need to understand some clock jargon. They are necessary for obtaining parts for your project.

The motor: It's the box that houses the mechanism and it is called a motor.

The shaft:



It's otherwise called the spindle, stem or post, and it sticks out of the motor. There are many different motors that carry different length, type and even diameter of the shaft. Our motors have a thread shaft diameter of $\frac{1}{4}$ ". The shaft in our case has 4 different sections to make note of.

The gold section with the rings on it is called the thread section of the shaft. It has threads because a nut is provided with your motor to screw on to this shaft to hold your dial/clock's face in place on the motor. The length of the threaded portion of a shaft determines how thick or thin your dial can be to work with the shaft.

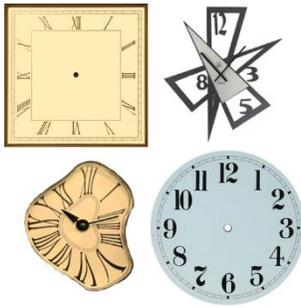
The white plastic section right after the threads on the shaft is called the hour shaft. Here is where you will press on the hour hand on to this portion of the shaft.

The smaller white plastic section after the hour shaft is called the minute shaft, here is where you would press

on the minute hand. Note that the hour hand shaft is bigger than the minute hand shaft, therefore it means that the holes in the hour hand is bigger than the hole in the minute hand, and since the shaft is round, both holes in the minute and hour hands are round. The holes in both the minute and hour hands are called pivot or mounting holes, as this is where the hands will pivot around the clock while they are on to the shaft.

And finally, inside the minute shaft is a hole – only observable if you are looking down into the tip of the shaft – it has a little pin in that hole, and this is where you would push the cap nut of the second hand into this hole and on to the pin inside.

The Dial:



The dial is otherwise called the face of your clock or the plate. It is where you would place the numbers of your clock. The hole in the middle of the dial is called the pivot hole, it is where the shaft of the motor will be pushed through. Many clocks have different designs of how their dials look. Some use numbers, or dots, or dashes, or just about anything to mark the hours to tell the time more easily. Some in addition to marking the hours, has a time ring either above or below the hour marks that marks the minutes. While others do not use any markings at all on their dial, giving it a more contemporary and modern look, but this is harder to tell an accurate time. In spite of what style your dial is, it is great to get the right length of hands that works well with your clock's dial.

Select the hands:



There is no set rule to this method. However, here are a few guidelines you can follow to help you make a good pick. If your clock has a time ring (picture on left), in spite of whether it is below the numbers or above it, the longest hand should fall halfway in the ring. Bear in mind that the longest hand of a kit can be either the minute or the second hand.

If your clock's dial does not have a time ring (picture on right), but it has hour markings, then your longest hand should fall in the middle of the numbers. If your dial does not have any markings, then it is great for the tip of your longest hand to fall around $\frac{3}{4}$ the distance between the pivot hole to the edge of the dial.



Remember that these are not hard and fast rules, you can place your hands anywhere you deem comfortable for your design, but these guidelines enable you to better tell the time when you look at your clock.

FIRST STEP: Measure the diameter of your dial.

Now that we have explained what the areas of the motor are and also the hand, you are ready to start your project. First, you will need to know some important measurements for your clock to get the right movement and the right length of hands.



To choose the right kit, you will need to measure the diameter of your clock's dial if it is round, or the smallest width of the dial if it is any other shape be it square, rectangular or variable.

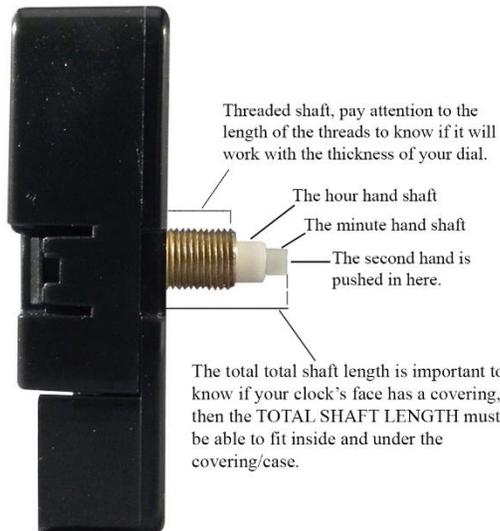
Next you need to measure the thickness of your clock's dial. This is important to get the right motor with the correct length shaft. Now let's choose the correct shaft length for you.



Thread Length

You'll want to make sure that the thread length of your clock movement is long enough to fit through the thickness of the dial or material you are mounting the movement to.

The threaded portion of the shaft (post) should come out of the mounting surface with about an 1/16" of length left for the mounting nut hardware, and 1/8" if you are using a rubber gasket as well



Total Shaft Length

When using a glass front on your clock keep in mind the total shaft length (total post length). You'll want to make sure there is enough room underneath the glass to fit the total shaft length including its minute hand cap nut if you're adding a second hand.

Shaft Diameter

The post mounting/pivot hole of your clock dial (or mounting material) needs to have a large enough diameter to fit the shaft of the clock movement through it. Since our posts are 1/4" in diameter, we recommend that your pivot hole in your dial is at least 3/8".

Measuring the Shaft When Replacing a Broken Quartz Clock Movement



In the case that you simply want to replace a broken motor, there are two measurements you will need from your old motor. The most accurate way to measure the shaft length on a clock motor is to use the depth gauge on a digital caliper. A ruler can be used as well, but make sure the ruler starts at 0, many rulers have their zero point a bit away from the end of the ruler.

Once you have found your measuring device measure from the top of the post/shaft down to the movement housing. This will give you the movements total shaft length. Also measure only the length of the threaded shaft, these two measurements will help you get the exact motor to replace your old motor.

If you are reusing your existing clock hands, you should confirm that the new movements shaft for both the hour and minute hand are the same size and shape as your existing hands. As there are many different size motors and shafts, different hands work for different motors.

